Jul 29 54

NATIONAL FISHERMAN

JULY 1954

Formerly ATLANTIC FISHERMAN

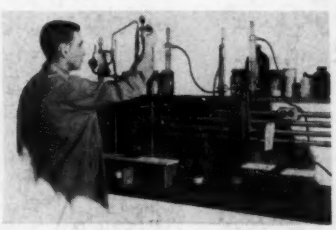
Longer, Stronger LIFE for COLUMBIAN MANILA ROPE

"For years, our laboratories investigated the thousands of organisms of decay which feed on rope. Intensive studies of fungi, molds, mildews, and rot bacteria led us to completely effective means for halting their growth in rope fibres — before it starts.

"Prior to spinning, every ounce of Manila fibre coming into our plant is thoroughly impregnated with a friction-reducing lubricant. That lubricant now contains a new material — technically called a fungistatic — which halts the growth of all organisms of decay deposited on our rope by air, soil, fresh or salt water.

"Every foot of Columbian Manila Rope is adequately protected against decay for YOUR climate, YOUR uses, YOUR methods of handling!"

Entering production lines, all Columbian Manila fibres are saturated with friction-reducing lubricant, containing closely controlled level of anti-rot substance.

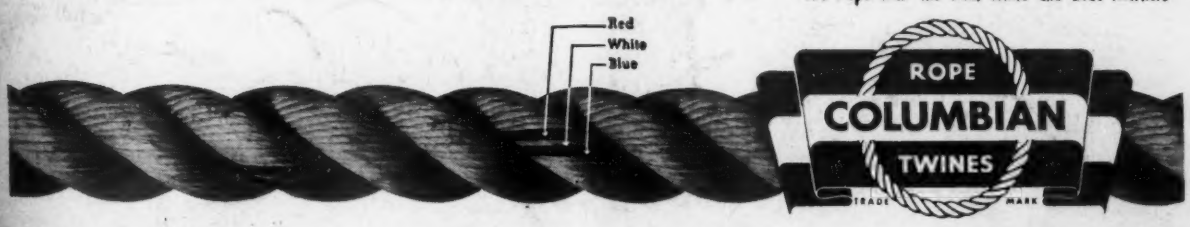


Frequent checks by Columbian chemists assure proper level of anti-rot material in lubricant applied to raw fibre at beginning of production line.

COLUMBIAN ROPE COMPANY

Auburn "The Cordage City", N.Y.

The Rope with the Red, White and Blue Markers

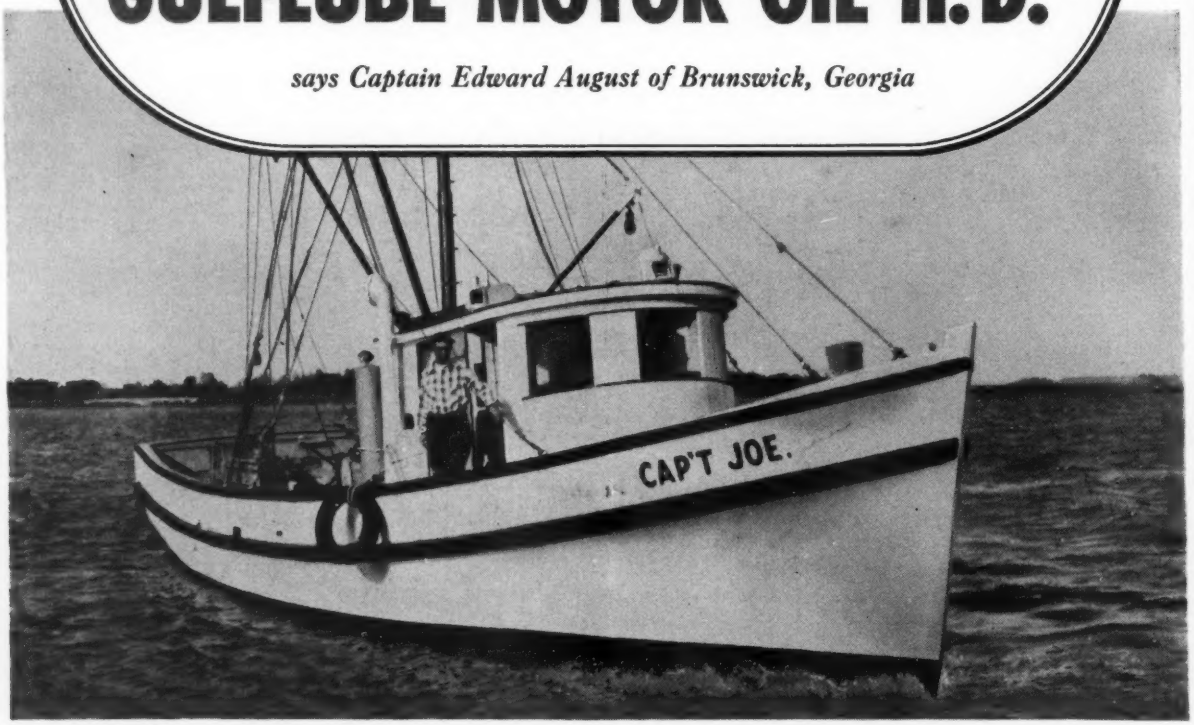


Boston Office and Warehouse

38 Commercial Wharf

"Our engine is cleaner, maintenance costs are lower, thanks to GULFLUBE MOTOR OIL H.D."

says Captain Edward August of Brunswick, Georgia



"We feel you would be interested in the fine success we have had with Gulflube Motor Oil H.D. in the engine of our boat, the 'Captain Joe,'" writes Captain August.

"When we first overhauled the engine, a Caterpillar Model 88, in 1949 after five years' service, we found the bearings and pistons clean and in first class condition. Now, after five more years without an overhaul, the engine shows no sign of sludge and runs fine. We figure Gulflube H.D. has more than doubled the time between overhauls and our engine is still clean."

Many other fishing boat operators have learned from years of experience that Gulf quality products help them get more fishing, less fixing, with lower maintenance costs.

To insure top engine dependability and safety at sea, use Gulf Dieselect Fuel. It's delivered to you refinery clean because your Gulf Marine Dealer's pumps are equipped with Micronic Filters. Just another advantage of doing business with your Gulf Dealer.

Gulf Oil Corporation • Gulf Refining Company

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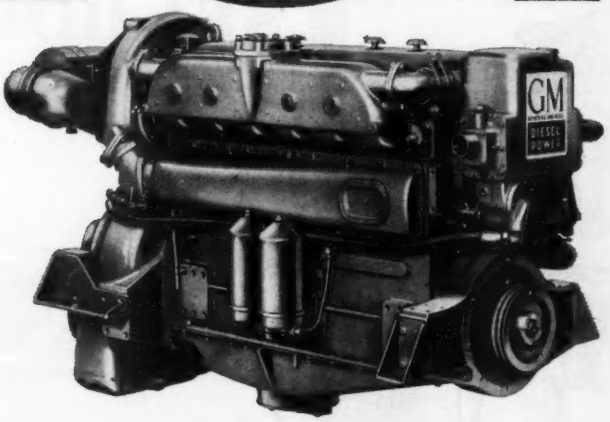


in GM "6-110" diesel engine

Improved Design Gives Still More Power Per Pound From Same Size Unit

Want to handle bigger pay loads at faster speeds with your boat?

Stymied because you can't fit a higher-horsepower Diesel into your hull?

Now you can handle heavier pay loads at faster speeds with a new 300-horsepower General Motors "110" Marine Diesel—the engine that delivers more torque in the working range with no boost in engine size or weight.

Higher horsepower means more speed—high torque, more working power.

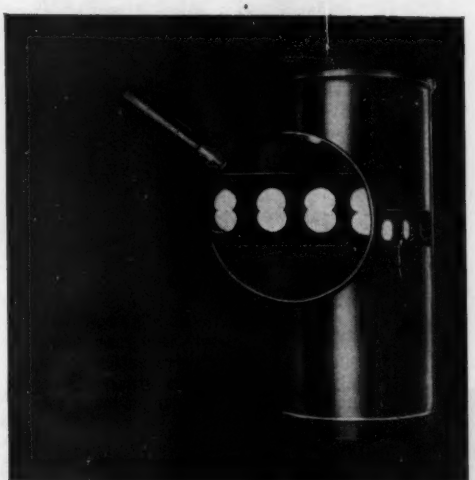
With a new 300-horsepower high-torque GM "110" Diesel fishing boats can get out to sea and drop their nets faster—speed back to port with a heavier catch to hit the market at its peak.

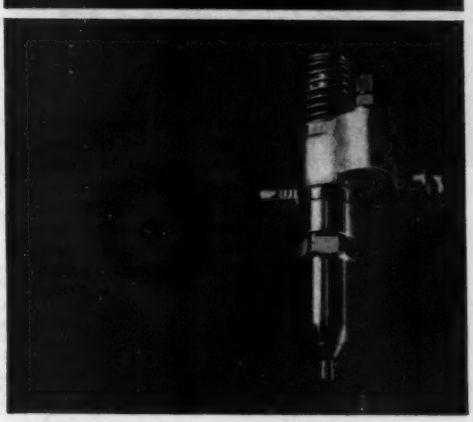
In workboats, more horsepower means faster tugging and towing—more torque in the working range means bigger jobs, more work per boat.

And because a GM "110" 2-cycle Marine Diesel packs 300 horsepower in a smaller, lighter engine it fits where other 300-horsepower Diesels won't.

Higher horsepower is also available in the General Motors "6-110" Tandem Twin that gives you twin-engine dependability and flexibility—costs less than other Diesels of comparable power.

Get full details on the new, more powerful GM Series 110 Diesels from your GM Diesel distributor. Have him show you that GM Diesels cost less to buy, less to run and less to maintain than any other Diesel.





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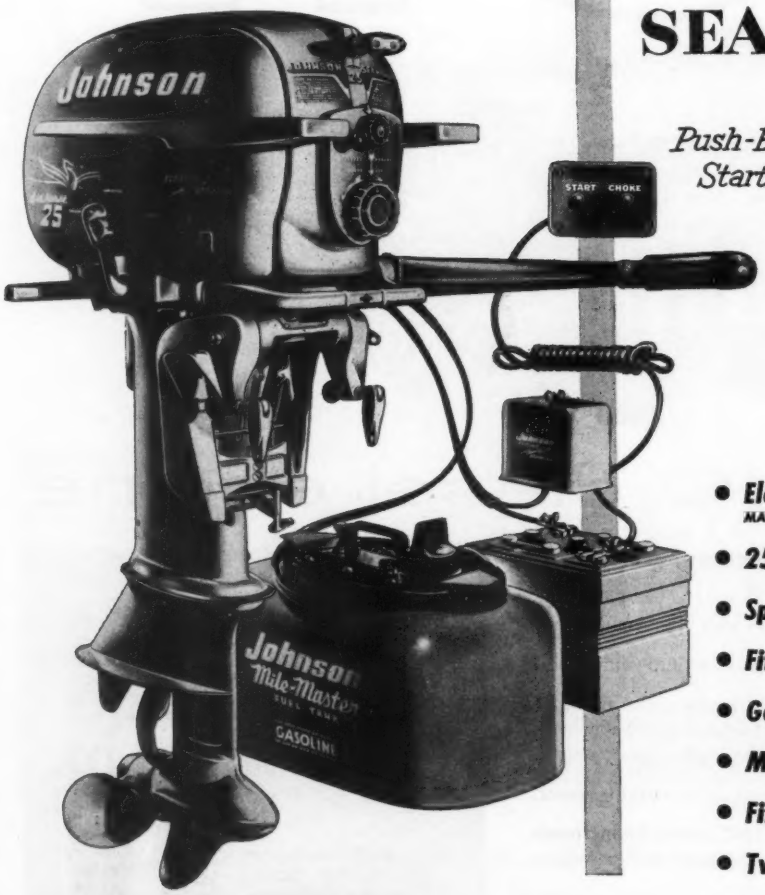
Single Engines ... 16 to 300 H.P. Multiple Units ... Up to 864 H.P.

New! ELECTRIC STARTING SEA-HORSE 25



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- **Electric Starting!** — ALSO EQUIPPED FOR MANUAL STARTING
- **25 Horsepower!**
- **Speeds over 30 mph!**
- **Fitted for Ship-Master Remote Control!**
- **Gear Shift!** FORWARD-NEUTRAL-REVERSE
- **Mile-Master Fuel System!** 6 GALLONS
- **Fitted for Fuel-Master Supply System!**
- **Twist-Grip Speed Control!**

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OUTBOARD MOTORS

Talk about the "automatic outboard." This is IT! Here is everything that has made the Sea-Horse 25 sensational — PLUS JOHNSON-ENGINEERED ELECTRIC STARTING!

It spins into action at the first touch of the starter button (still equipped for manual starting, too). In fact, this great motor is engineered so that you can choke, start, shift, throttle, steer, and stop *without leaving your seat up front!* In addition to the 6-gallon Mile-Master Fuel System (standard equipment), it's fitted for Johnson's amazing new Fuel-Master Supply System, for *extra-long* cruising range — and Ship-Master Remote Control, for shift-and-throttle operation.

Nothing has ever been created to make outboard handling so simple, so convenient, so luxurious. Get the full story. See your Johnson Dealer. Look for his name under "Outboard Motors" in your classified phone book.

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Send for colorful, fully-illustrated catalog which describes, in detail, the Electric Starting Sea-Horse 25 and the four other great Johnsons. Catalog is yours for the asking. Write to:

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5 GREAT SEA-HORSES FOR 1954

ELECTRIC STARTING SEA-HORSE 25—25 hp. The "automatic outboard"..... $498.00*
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SHIP-MASTER REMOTE CONTROL—Shift-and-throttle. Corrosion-proof. Instant hook-up on Sea-Horse 5½, 10 and both 25's. From..... $29.50*

**Prices f.o.b. factory, subject to change. OBC certified brake hp at 4000 rpm.*

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NATIONAL FISHERMAN

Formerly **ATLANTIC FISHERMAN**

Serving the Commercial Fishing Industry of the United States

Protecting Fishing Rights on High Seas

A Bill to protect the rights of United States vessels on the high seas and in territorial waters of foreign countries has been introduced in the U. S. Senate by Senator Saltonstall of Massachusetts as S.3594, and in the House by Congressman Thompson of Texas as H.R.9538.

The Bill provides that in any case where (a) a vessel of the United States is seized by a foreign country on the basis of rights or claims in territorial waters or the high seas which are not recognized by the United States, and (b) there is no dispute or material fact with respect to the location or activity of the vessel at the time of its seizure, the Secretary of State shall secure the release of the vessel and crew and shall pay, on behalf of the United States, any fines or post any bonds that may be required by such country for such release. It would then be for the Secretary to decide whether it is appropriate to present any claim by the United States against the seizing country.

A resolution adopted by the recent National Fisheries Institute convention pointed out the need for legislation containing a clear statement of positive policy with respect to jurisdiction over high seas fisheries, to protect both fishermen and resources of the oceans. The Southeastern Fisheries Association at its annual meeting gave endorsement to such legislation after learning that some countries propose to extend their territorial limits as far as 200 miles into the sea.

Active support in sponsoring the high seas Bill was given by the Texas Shrimp Association whose members have had numerous problems with shrimp trawler seizures in the Gulf of Mexico. New England fishing boat owners, while not yet experiencing any territorial fishing difficulties, are interested in protecting their operations on banks off Nova Scotia and Newfoundland.

In commenting on the Saltonstall Bill, the Fishermen's Cooperative Association of San Pedro, Calif. stated: "While this matter is of great concern to our general maritime and defense interests, it is a most immediate problem with our fisheries. Approximately two-thirds of the U. S. fish production is harvested by our Atlantic, Gulf and Pacific fishermen in areas traditionally considered to be the high seas and now being claimed or being threatened with claims from foreign nations. This legislation will assure the continuance of these fisheries without the damage to our foreign policy that could be occasioned by a type of vigorous action which might otherwise be felt necessary to stop this encroachment upon the doctrine of the freedom of the seas.

"Under present conditions, a U. S. fisherman has his capital at continuous risk while preserving, through use, U. S. high seas rights. For this reason the U. S. should stand ready to indemnify its fishermen thus engaged and reserve its claims for financial reimbursement from the offending nation to a time when it is to the over-all best interest of the U. S. to collect the same."

Protecting the rights of fishermen on the high seas is of vital importance to the welfare of the fishing industry. Approval of the Bill before Congress is necessary to assure uninterrupted fishing operations, and to maintain a valuable source of the nation's food supply.

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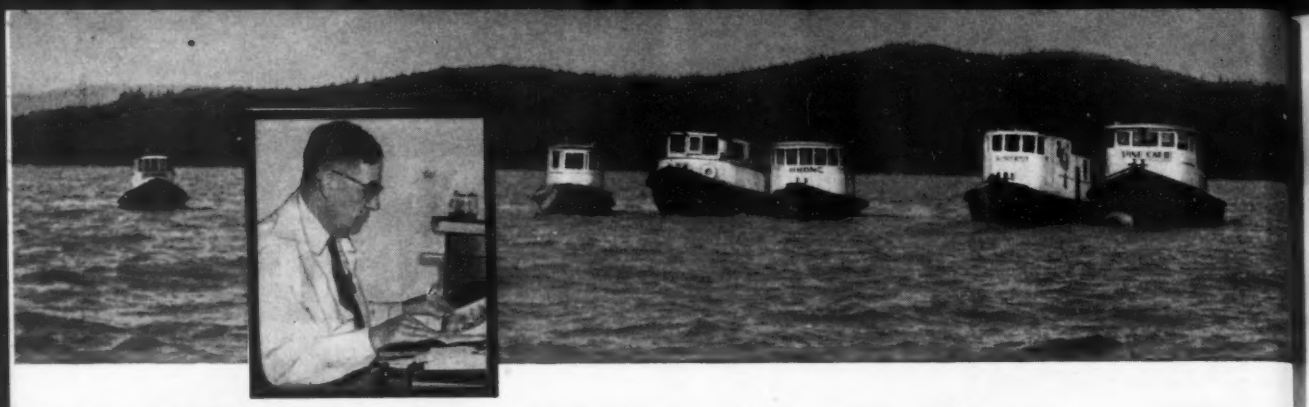


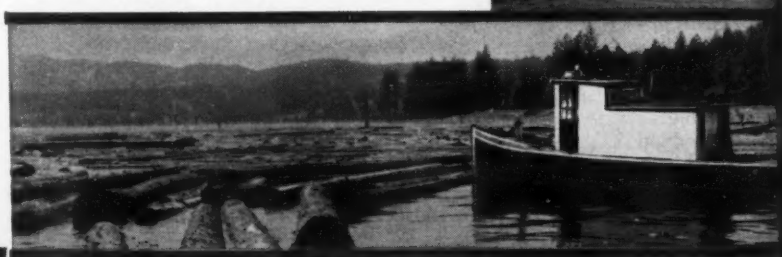
"Chrysler Marine Engines in our fleet average 4000 hours between servicings"

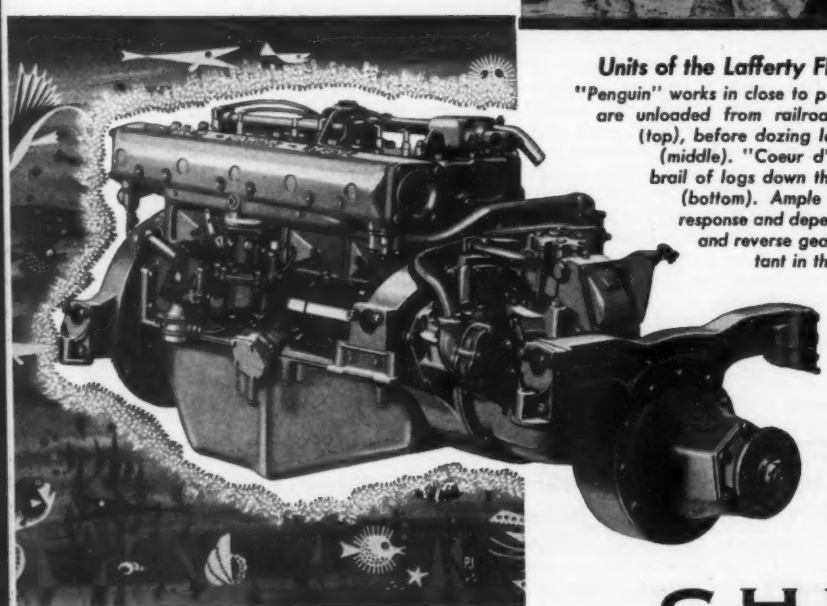
. . . says A. B. Lafferty, Coeur d'Alene, Idaho, tug fleet operator and boatbuilder

Last year the Lafferty Transportation Company of Coeur d'Alene, Idaho, towed some 200 million feet of logs and barged 1500 odd carloads of sawn lumber. That's a typical year for the fourteen-boat Lafferty Fleet which gathers and hauls logs for more than twenty lumber companies along Coeur d'Alene Lake.

The Lafferty Company builds its own boats, ranging in length from 26 to 40 feet, some steel, some wood. Chrysler Crown 115 horsepower Engines are used with 2½ to 1 reduction gears and Chrysler hydraulically-operated forward and reverse clutch.

A. B. Lafferty, whose company also builds boats for other operators, writes: "I am standardizing on Chrysler Engines for all my medium-sized boats because of fuel consumption, rugged service and freedom from breakdowns. Over the years," Lafferty goes on, "our Chrysler Crown Engines *average 4000 hours* between servicings, which consist mostly of valve regrindings. I'm sold on Chrysler."





Units of the Lafferty Fleet at work

"Penguin" works in close to point where logs are unloaded from railroad freight cars (top), before dozing logs into pocket (middle). "Coeur d'Alene" pulls a brail of logs down the St. Joe River, (bottom). Ample power, instant response and dependable forward and reverse gearing are important in this kind of work.

Successful Commercial Operators Install Chrysler Marine Engines. Check These Quality Features —*Standard in Every Chrysler Marine Engine*— 92 to 200 h.p.

- **By-Pass Thermostat**
- **Stainless-Steel Valve Springs**
- **Full-Flow Oil Filter**
- **Storage Battery**
- **Low Cut-In Generator**
- **Brass Water Tubing Throughout**
- **Chrysler-Designed Reverse and Reduction Gears**

See a Chrysler Marine Engine Dealer, or write: ***Dept. 117, Marine Engine Division, Chrysler Corporation, Trenton, Michigan.***

CHRYSLER

America's No. 1 Marine Engine

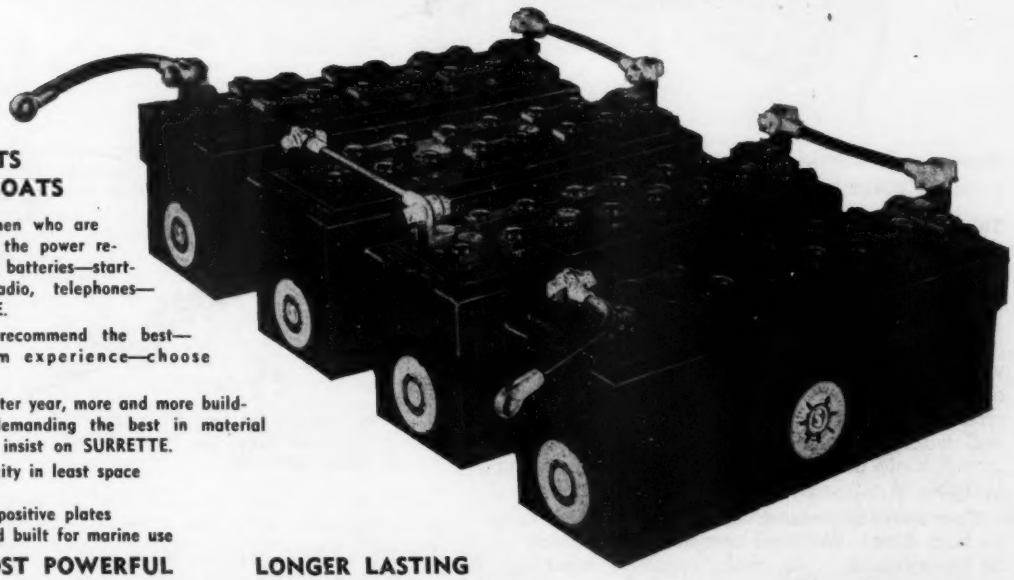
MARINE ENGINE DIVISION • CHRYSLER CORPORATION

Surrette

Owned by Texas Fisherman's Association, Aransas Pass, Texas—equipped with Surrette Marine Storage Batteries.

Another Conrad Industries built trawler carries Surrette Marine Batteries.

WORLD'S BEST MARINE BATTERY



For

WORK BOATS
PLEASURE BOATS

Fishermen—the men who are so dependent on the power required by their batteries—starting, lighting, radio, telephones—choose SURRETTE.

Architects—who recommend the best—and know from experience—choose SURRETTE.

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Louis Posner, Fish Pier, Boston, Massachusetts
Leo's Battery Service, New Bedford, Massachusetts
Robert Horman, New Haven, Connecticut
West Haven Shipyard, West Haven, Connecticut
Surrette Storage Battery Co., (Warehouse) Sherman Ave., New York
Maripet Supply Corporation, New York 17, New York
Freeport Marine Supply, 51 W. Merrick Rd., Freeport, New York
George Wingerter, 164-02 Cross Bay Boulevard, Howard Beach, L. I., New York
Marine Electric Corporation, Brooklyn, New York
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Marine Equipment & Supply Co., Philadelphia 6, Pa.
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Johnson & Towers, Baltimore, Maryland
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Capitol Marine Supply, Washington, D. C.
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Byrne & Rice Supply Co., Morgan City, Louisiana
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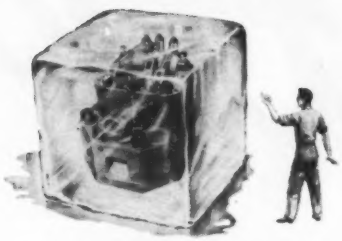
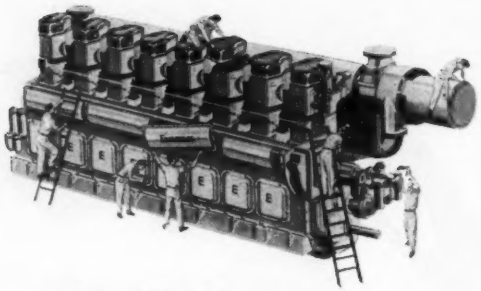
McIntosh Electric Supply Company, Beaumont, Texas
Stewart & Stevenson Services, Inc., 4516 Harrisburg Blvd., Houston 11, Texas
Nash & Cotton, Galveston, Texas
Producers Marine Service, Port Isabel, Texas
Ewing Battery Company, Brownsville, Texas
Marine Electric Service, Box 56, Port Isabel, Texas

Surrette MARINE BATTERIES

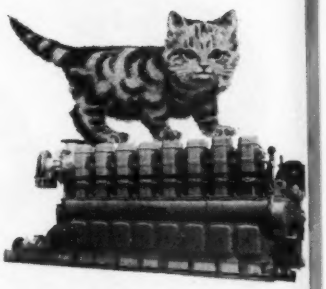
Surrette Storage Battery Company, Inc., Jefferson Avenue, Salem, Mass.



A really efficient cooling system? No "hot spots" with ENTERPRISE –it never runs too hot or too cold!



Accessibility? It's easy to get to *all* the parts!



Low "noise level" and freedom from damaging vibration? ENTERPRISE Diesels are "quiet as a kitten"!

Mr. Diesel Engine Buyer:

What Do You Look For In A Diesel?

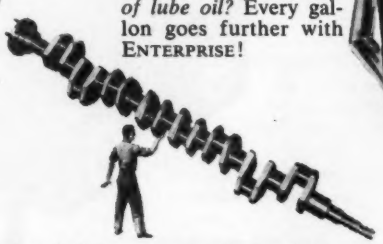
Sustained, continuous and economical performance ...hour after hour, year in and year out!

This is what you want in your next diesel engine. And this is what you will *get* with dependable ENTERPRISE Diesels.

Some of the key features that combine to make ENTERPRISE your best buy in heavy-duty diesels are shown here. There are many others you'll want to know about – up to the minute features of design, materials and construction that are the result of 35 years experience in power research and diesel engine building... features that contribute to the most efficient and reliable power available at a fraction of the cost you'd expect.

Your own comparison will prove that there is no finer diesel. Write for complete information on ENTERPRISE... *the choice of power experts.* Units from 75 to 2700 hp.

More hours per gallon of lube oil? Every gallon goes further with ENTERPRISE!



True balance for smooth running? ENTERPRISE takes the "jitters" out of diesel operation!

Top service... where and when you want it? ENTERPRISE customers get fast service... and parts within hours!

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Sounding-Lead

Import duty on groundfish fillets will remain unchanged, President Eisenhower has decided. Tariff Commission's recommendations for increased duty were rejected because President believes growing demand for fish sticks will solve trouble imports cause to domestic fishing industry.

Eisenhower commented: "It seems likely that fish sticks may finally bring about an increase in consumption of fish, which has held steady at between 10 and 12 pounds per capita annually for almost fifty years. Conceivably, consumption may increase by almost 50 percent within a few years as result of new product.

"I am firmly convinced that it would be a disservice to long-run interests of entire groundfish industry to limit imports of groundfish fillets in these circumstances. Such action would reduce raw material supplies of processors of fish sticks. It would create an artificial scarcity and tend to increase price. At same time it would hamper and limit development of market for the product (fish sticks) and jeopardize present prospects for increase in per capita consumption of fish which is key to real solution of industry's problem."

Saltonstall-Kennedy bill, which was approved by President Eisenhower July 1, will virtually double funds available for fisheries research and market development. The measure authorizes transfer of up to 3 million annually for three years to Fish and Wildlife Service for such work. Funds will represent portion of revenue derived from duties on foreign imports.

Duty on fish sticks and blocks will remain as is, under decision by Bureau of Customs. It was ruled that frozen fish blocks, consisting of cod, haddock, hake, pollock, cusk, and ocean perch (rosefish) will be dutiable at 1⅞ cents per pound for that quantity received under quota, and 2½ cents per pound for quantity which is imported over quota.

Breaded fish sticks, cooked or uncooked, not containing added oil will be dutiable at 1 cent per pound net weight if in bulk or in immediate containers weighing with their contents over 15 pounds each; and at 12½ percent ad valorem if in immediate containers weighing with their contents not more than 15 pounds each.

Breaded fish sticks, cooked or uncooked, containing added oil resulting from presence of oil in material in which they were breaded or from oil in which they were cooked will be dutiable at 30 percent ad valorem when valued over 9 cents per pound including weight of immediate container.

Congressman William H. Bates of Massachusetts has introduced a bill to amend paragraph 717 of Tariff Act of 1930, as follows: "(d) Fish sticks or other shapes, breaded or coated, not including ice as coating, shaped, cut, pressed or formed from fish or parts of fish, whether or not described or provided for elsewhere in this Act, irrespective of type or size of container in which imported and whether or not packed in oil or not in oil and other substances—uncooked 20% ad valorem, cooked in any degree 30% ad valorem."

Social Security Act and Internal Revenue Code would be amended under H.R. 9366, which has been passed by House, so as to extend coverage to additional fishermen under Old Age and Survivors Insurance program. Bill provides for coverage of employed fishermen, clam diggers, etc., who are now excluded.

Imports of tuna and tunalike fish during January-April 1954 showed considerable gains over same period of year ago. Fresh and frozen tuna imports increased 31 percent; tuna canned in brine, 55 percent; and bonito canned in oil, 41 percent. Tuna canned in oil, however, showed decline of 73 percent, but quantity was relatively small as compared with items showing increases.

Imports of frozen tuna from Japan have been steadily increasing for several years, and that increase continued during first four months of 1954. A comparison of figures for first four months of the years 1950 through 1954 shows that in 1950 Japan had one-half of one percent of imports of frozen tuna into United States. Peru had 70.6% of those imports. In 1954 Japan's share had grown to 77.5%, while Peru's share had declined to 19%.

Total imports of frozen tuna from all countries jumped from 9,143,000 lbs. in 1948 to 95,038,000 lbs. in 1953.

General trend in imports of canned tuna into United States market follows pattern found in frozen tuna, although rate of increase has been a little less spectacular. Combined imports of canned tuna in oil and in brine have increased from 12,971,000 lbs. in 1951 to 34,731,000 lbs. in 1953. Japan's share of total canned tuna imports over last 6 years has risen from about 8% to more than 93%, while all other countries declined to an aggregate 7% in 1953.

Tuna canned in brine has assumed number one position, jumping from 0.01% of total canned tuna imports in 1948 to 86.5% in 1953. Tuna in brine enters United States at an ad valorem duty of 12%, compared with the tuna in oil rate of 45%. A treaty with Iceland (which produces no tuna in any form) provided means whereby this market was developed.

Technology meeting of F&WS (Fish & Wildlife Service) was held in Washington June 9. Industry representatives proposed development of voluntary standards for fish sticks as a project which should be given top priority. Another project suggested by industry was a study of methods of preserving quality of fresh fish aboard vessels prior to landing.

Some of new projects proposed by Service were: (1) Development of Proper Methods for Handling, Freezing and Packaging Southern Oysters; (2) Objective Tests for Freshness and Quality of Fresh, Frozen and Canned Fishery Products; (3) Chemical Index for Nutritive Value of Fish Meal.

Pack of canned salmon in Pacific Coast States during 1953 amounted to 1,049,547 standard cases, valued at $24,067,839 to canners—an increase of 18 percent in volume and 10 percent in value as compared with previous year. Salmon were canned at 30 plants in Washington, 9 in Oregon, and 1 in California.

Pack of pink salmon amounted to 452,305 cases, compared with only 4,711 previous year. Pink salmon have a two-year cycle, and are taken in volume in Puget Sound waters only in odd-numbered years.

Packs of chum salmon (175,506 cases) and silver salmon (79,584 cases) were far below those of 1953. Pack of chinook salmon (102,292 cases) was likewise less than in previous year and was smallest pack of this species in Pacific Coast States since 1870.

Exports of inedible fishery products in 1953 were valued at 10.8 million dollars—an increase of 68 percent as compared with previous year. This was new record. Increase was due largely to greater exports of fish oils to foreign countries. These shipments amounted to 108.7 million pounds, valued at 7.8 million dollars.

Record tuna pack was turned out in United States, Hawaii and Puerto Rico during 1953. Total of 9,580,000 standard cases of tuna and tunalike fishes, valued at $126,258,000, was put up by canners.

Excluding 722,967 cases of unclassified tuna, yellowfin led in production with 3,059,000 cases, valued at $40,097,000. Second most important species was albacore (white meat tuna) with 2,691,000 cases, worth $37,461,000; followed by skipjack with 2,530,000 cases, valued at $32,982,000.

Haddock net mesh size regulations, as adopted pursuant to Northwest Atlantic Fisheries Act, are applicable to so-called small and medium-sized boats, as well as large craft. This was pointed out recently by Fish & Wildlife Service, which reports some confusion on this matter among owners and captains of smaller boats.

"Every time I open my mouth these days, someone always butts in to talk about something called Re-Powered with O-P."

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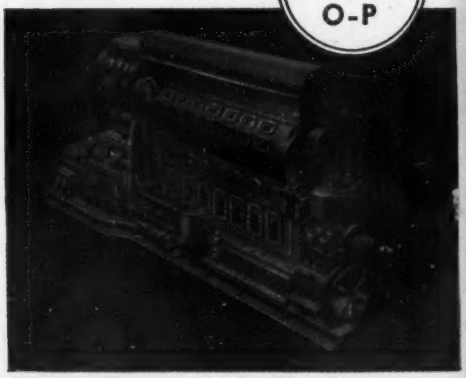
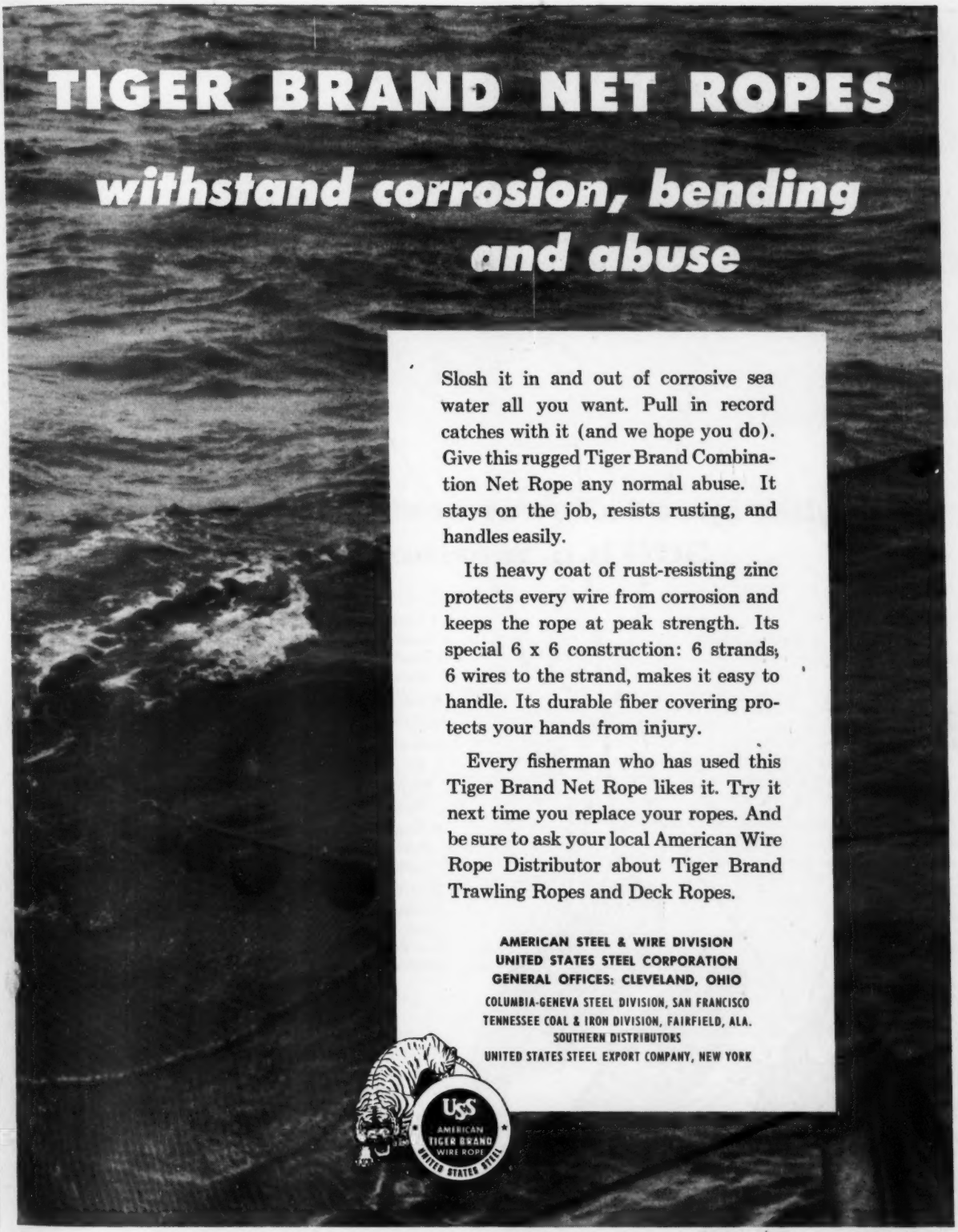


Model 38F Marine O-P Diesel for the 225 to 750 horsepower class.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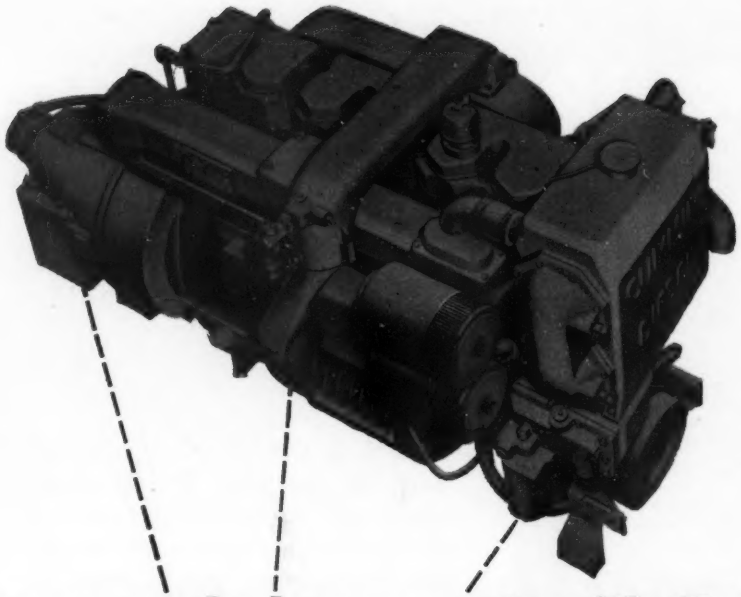

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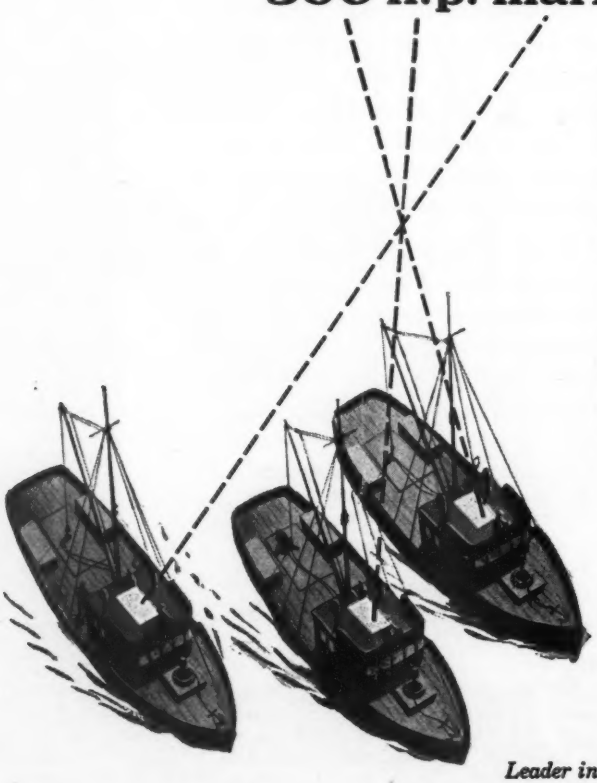

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Air view of Port of Seattle's Fishermen's Terminal at Salmon Bay, Washington.

Some Causes of Ups and Downs in Fish Yields

Amount of plant nutrients in ocean and changes in weather and currents are cited as reasons by Dr. Roger Revelle*

THE seas are so vast, and so alien to us as land mammals, that it is difficult for us even to conceive of the ways of life in the ocean. For this reason, we are liable to explain the widespread fluctuations in the fisheries during the last few years in one of two ways:

We may say that the fish populations have become depleted by merciless exploitation—this is the point of view of those who claim that most of the fish are now in a can. Alternatively, we may say that fish are wayward creatures whose behavior is whimsical and irrational. They appear in a certain area for no apparent reason, and they disappear.

There is undoubtedly some truth in both these ideas. But it is my chief purpose to present a third point of view: That fish, like all other living things, are to a great extent creatures of their environment; the sizes and locations of fish populations depend on the characteristics of the ocean waters in which they live. It follows that we may gain a useful understanding of the fluctuations in the fisheries by achieving a greater understanding of the oceans.

To establish a framework for understanding of the ocean waters, it is tempting, though it may be dangerous, to draw analogies between the familiar conditions of life on land and the strange world of the sea. On land the cycle of plant and animal life appears to us a simple, straightforward one. First there is the grass, which by a subtle and complex chemistry captures the energy of sunlight and builds organic matter. Then there are the deer and the cows that live on the grass, and the tigers and men who eat the deer and the cows. Finally, there are the bacteria which decompose the dead bodies and the excreta of all living creatures, making the constituent substances again available as building material for the plants.

In the sea the same cycle of sunlight, plants, animals and bacteria exists, but with a difference—instead of grass there are tiny plants floating in the blue waters, and in place of cows the animals that eat these plants are copepods no bigger than the head of a pin. The tigers that eat the cows are arrow worms and euphausids, only a fraction of an inch in length, and a series of intermediate meat-eaters exists between them and the fish, which represent for us the ocean harvest. Since every link in this long food chain is inefficient, it is not surprising that we reap from the ocean only about twenty million tons of food a year—a small fraction of the production of our farms on land, and less than a tenth of one per cent of the organic production of the sea.

Plants Grow Near Surface

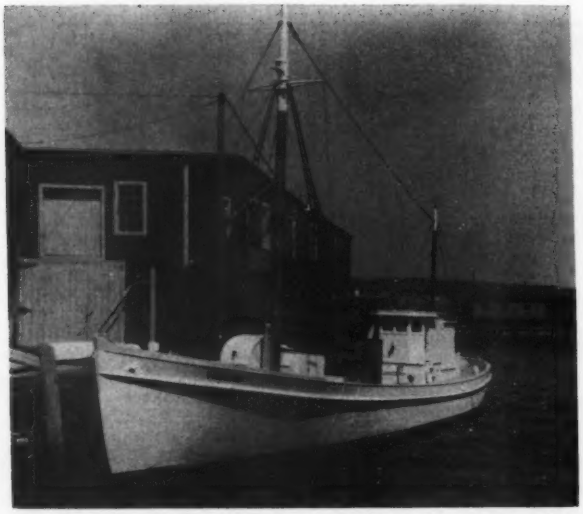
On land, we are used to a great compression of the zone of life: For the most part, it is confined to a thin surface layer a few tens of feet thick. But the whole giant volume of the sea is the theater of life. Even in the great depths seven miles below the surface, where no light penetrates, the temperature is always just above freezing, and the pressure is more than 15,000 pounds per square inch, recent oceanographic expeditions have found scores of different species, and the bottom muds at these depths teem with bacteria. But the plants of the sea, on which all other living things depend, grow only in the waters near the surface where bright sunlight penetrates.

The subsurface waters differ widely in fertility. Like the land, the ocean has its green pastures, where life flourishes in abundance, and its deserts where a few poor plants and animals barely survive. Unlike the rich soil of Iowa, which remains nearly constant in fertility from year to year, even the most productive ocean areas sometimes drastically decline in a relatively short time. After a period of years they may with equal abruptness apparently recover their fertility.

The fertility of the land depends primarily on four things: The air temperatures throughout the year; the intensity of sunlight during the growing season; the amount of water; and the presence of a sufficient amount of plant nutrients in the soil—that is, substances such as phosphate and nitrate and many others, which usually occur in very small amounts but are essential for plant growth.

(Continued on next page)

* Dr. Revelle is director of The Scripps Institution of Oceanography, University of California, La Jolla, Calif. The accompanying material was excerpted from a paper presented by him at the recent National Canners Association convention in Atlantic City, N. J.



The sardine carrier "Pauline" at the Rockland, Me. plant of her owner, North Lubec Manufacturing & Canning Co. She is skippered by Capt. Harold Small of Lubec, and powered by a Model 1879, 171 hp. Buda Diesel with 3:1 Twin Disc reduction gear.

(Continued from previous page)

In the sea, water is of course always abundant; the plants are well adapted to the relatively narrow range of temperature; and the intensity of sunlight determines the length of the growing season and the depth to which plants can grow, but apparently not the differences in fertility. These depend only on the plant nutrients present in the waters near the surface.

"Plowing of the Sea"

As with any well-worked soil on land, these plant nutrients must be replenished each year. They always are being depleted by the slow sinking of plant and animal remains from the brightly-lighted subsurface waters into the dark waters of the depths. Men plow the soil to restore its fertility by bringing up to the surface the plant nutrients which have been carried downward in solution. Similarly, the fertility of the sea is restored when the nutrient-rich deep waters are brought up near the surface. This "plowing of the sea" must be carried out on a very large scale and can be accomplished only by the ocean itself. The regions where the ocean plowing is most effective are the green pastures of the sea.

The ocean plowing is accomplished in one of three ways. In some regions the wind drives the surface waters away from the coast, or away from an internal boundary in the sea, and nutrient-rich water wells up from mid-depths. In other areas the surface waters are cooled near to freezing in the Wintertime, become heavy and sink, and mix with the nutrient-rich deep waters.

Elsewhere, violent turbulence occurs along the boundaries between major ocean currents, and some of the nutrient-rich deep waters are thereby brought into the brightly-lighted zone where the nutrients can be used by the plants. As Sverdrup has pointed out, most of the great fisheries of the world depend for their existence on one or another of these three ways in which the ocean plows itself.

The sardines, anchovies and mackerel of California, the sardines of South Africa, the tunas off the West Coast of North and South America, the bonitos, albacore and hake of Chile and Peru, the apparently abundant deep tunas in the equatorial zone of the Pacific, all live in regions of up-welling, where the deep water is pumped to the surface by the wind. The cod, herring and haddock of Newfoundland, Labrador, Iceland, Greenland and Bear Island live in the regions of Winter cooling. The sardines of Maine and the flat fishes of the Grand Banks live where the Gulf Stream and the Labrador Current clash in turbulent mixing.

Fertility of Ocean Varies

Variations in the weather and in the speed and location of ocean currents, and possibly in the amount of soil and dissolved material carried to the sea by the rivers bring about wide variations in the fertility of the sea's green pastures. We have some evidence for this in the observed fluctuation of the annual crop of plant plankton in different regions. Other evidence comes from the fluctuations in the numbers of young fish before they are old enough to be caught by the fishermen.

Most fish of the high seas spawn so many eggs that it is difficult to believe these fluctuations in young fish numbers can be due, except in cases of extreme depletion of the spawning population, to fluctuations in the number of adults. Perhaps it is better to say that the variations in the amount of available food and in the numbers of predators and competitors are so great as to mask any relationship between the numbers of adults and the size of a new year class.

Variations in the strength of the new year class, not apparently related to the size of the parent stock, have been observed in many fisheries; for example, the Atlantic, Pacific and Japanese herring, the North Sea plaice, the Atlantic haddock and cod, and the California sardine. In most instances we are not sure whether these are brought about by actual changes in fertility, by some other process related to the ocean circulation, or by little understood biological factors.

One instance in which changes in the fertility of the water would appear to be closely related to changes in the young fish population is in the English Channel, where during the years from 1924 to 1937 Russell found good correlation between the Winter maximum of phosphate in the water and numbers of Summer-spawned young fish. Fluctuations in the adult population—that is, the rate of natural mortality—also may be related to variations in the food supply. The unexpected decline in the catch of Alaska pink salmon in 1953 well could be an example.

Fluctuations in Weather and Ocean Currents

Perhaps of greater importance, both to the fish and the fisheries, than the variations in fertility of a particular region, are the fluctuations in the weather and in ocean currents, and the accompanying changes in the temperature and other properties of the water. Just as the elk of the plains and the caribou of the tundra live in a well-defined climatic region and migrate north and south as climates change, so each species of fish has a limited range of tolerance to the ocean climate.

Moreover, even though the fish can swim fast and well, their movements seem to be affected by the ocean currents. Consequently, the distribution of a fish population may change as the currents change. But the locations of the areas of high fertility are not much affected by the currents. Thus, both the adults and the young fish may be carried out of regions of high fertility and good food supply into a harsher environment, where many of them must starve or be weakened in vitality so that they become easy victims to predators. There are no fences around the green pastures of the sea.

For example, one of the principal factors bringing about recent poor year classes of California sardines may be changes in the ocean currents off the California coast. During the years when the young sardine population was large, a pronounced counter-current flowed northward between the shore and the southward moving California Current. The counter-current has been weak or absent during the last few years, and the center of population of both the adult and young California sardines has shifted southward far down the coast of Lower California. The fertility of this area is probably much less than that of the waters off California, and it is likely that at least some racial groups of the sardine population have diminished greatly in numbers.

(Continued on page 32)

New Shrimper Goodwill Destined for Research

500th vessel built by Florida yard is turned over to Tampa Shrimp Producers' Association for developing new grounds

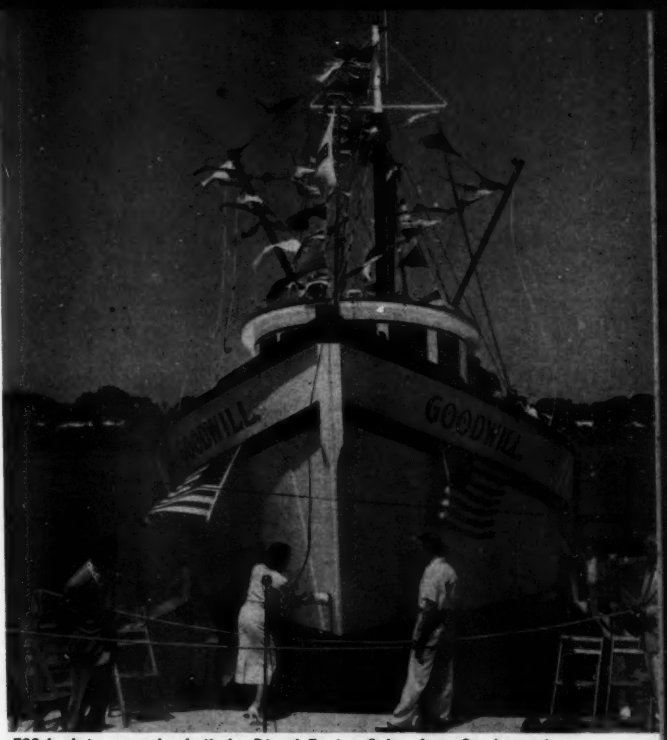
AN enviable record in the building of shrimp boats was established on June 7 when Diesel Engine Sales, Inc. christened and launched its 500th trawler at its main yard in St. Augustine, Fla. The trim 67' *Goodwill* has been placed at the disposal of the Tampa Shrimp Producers' Association for research and development of new shrimp grounds for the industry in the Gulf and off the Florida coast. E. L. "Bluff" Peterson, who found the "golden" shrimp beds off Key West, will serve as captain of the new vessel and will be one of the leaders during the expedition.

The launching of the *Goodwill* was an especially noteworthy event in view of the fact that the shipyard delivered this craft and her 499 predecessors in 11 years. The tempo of construction has been increased ever since the first trawler, the *M. A. Bowlin*, was launched in October, 1943. Major credit for the yard performance goes to L. C. "Ring" Ringhaver, president and general manager. His ability in setting up a production line method has made Diesel Engine Sales the largest producer of wooden shrimp trawlers in this country.

The christening of the *Goodwill* was performed by Mrs. Leroy Collins of Tallahassee, wife of Florida's Governor-elect, who cracked the bottle of champagne across the bow of the flag-bedecked trawler. Approximately 1,000 guests watched the new vessel slide down the ways.

The launching of the *Goodwill* was followed by a beef, lamb and shrimp barbecue on the grounds of Diesel Engine Sales. Mr. Ringhaver was host to a large gathering of dignitaries and distinguished guests from throughout Florida and the nation.

Like the 499 other vessels built by the St. Augustine shipyard, the *Goodwill* is the latest word in craftsmanship. Designed by Tams, Inc., the boat boasts the speed and design needed for today's far-located shrimping operations. Her 120 hp. Caterpillar D13000 Diesel marine engine with Twin Disc power take-off was furnished by Gibbs Corporation of Jacksonville.

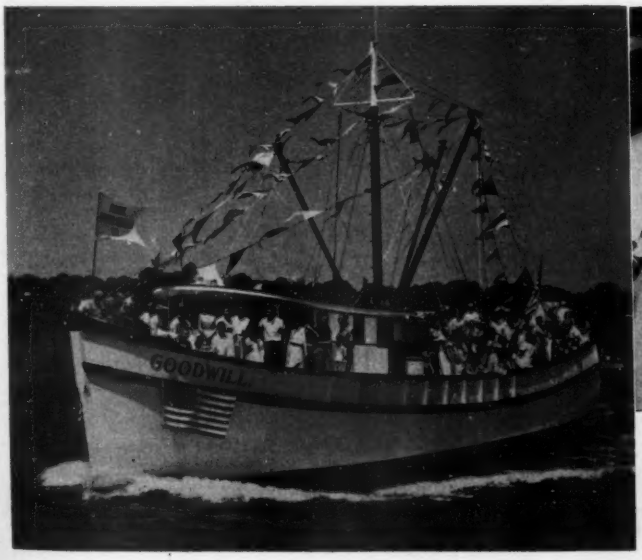


500th shrimp trawler built by Diesel Engine Sales, Inc., St. Augustine, Fla., being christened by Mrs. Leroy Collins, wife of Florida's Governor-elect. The 67' "Goodwill" is powered with a 120 hp. Caterpillar D13000 Diesel.

The engine turns 48 x 44, five-blade Columbian propeller through 3:1 Snow-Nabstedt reduction gear. The shaft is a 3" Tobin bronze supplied by H. M. Hillman of Brooklyn, N. Y., with Goodrich Cutless stern bearing and Hammond flax packed bearings.

The first 100 vessels of Diesel Engine Sales were built in four years and six months; the second hundred in two years and four months; the third hundred in one year and ten months and the fourth hundred in one year and two months. The 400th trawler was launched in August, 1953. She was the *Miss Four Hundred* for Frank Fant of Jacksonville. In less than a year, 100 other vessels have been built and fitted for the shrimp industry. Diesel Engine Sales employs over 125 workmen.

(Continued on page 38)



New shrimper "Goodwill" sailing down San Sebastian River after launching ceremonies at Diesel Engine Sales, Inc., St. Augustine, Fla. Enjoying the barbecue are L. C. Ringhaver, president of Diesel Engine Sales; Leroy Collins, Florida's Governor-elect; George Gibbs, Jr., Gibbs Corp., Jacksonville; Bob Coyle, Caterpillar Tractor Co.

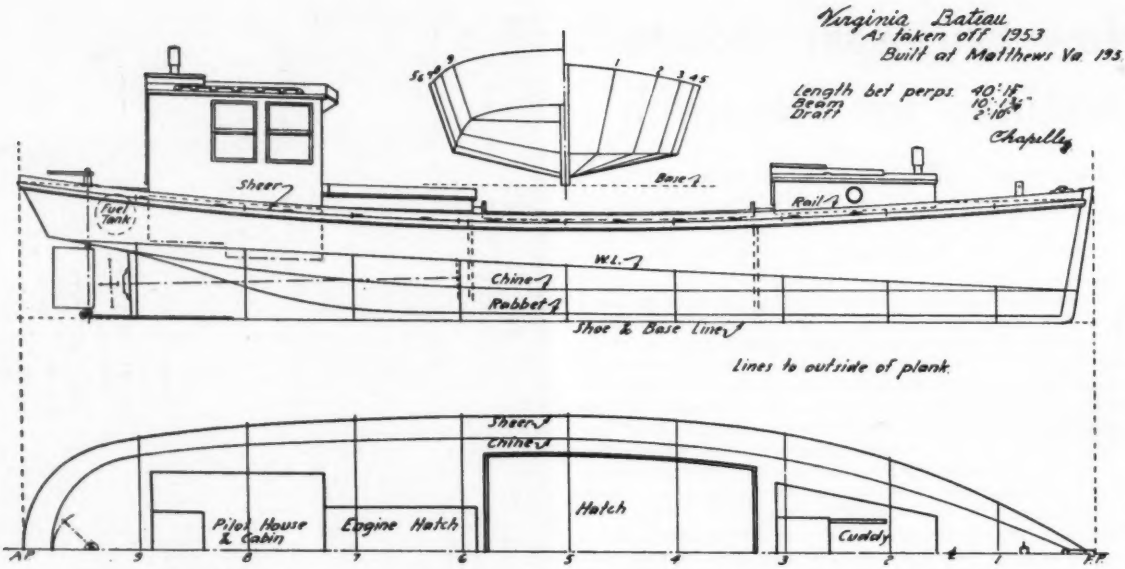


Figure 6—Plans of a Virginia Bateau with length between perpendiculars of 40'1½", beam of 10'1¾" and draft of 2'10".

Use of V-Bottom Fishing Boats Is Spreading

Howard I. Chapelle* discusses design features of these craft with an eye to possible improvements

THE V-bottom model of fishing launch is spreading rapidly along the Atlantic Coast. It has been, for years, the standard model of the Chesapeake and slowly has replaced other models to the southward, except in offshore draggers and in the shrimp and menhaden fisheries. The V-bottom also has appeared in Delaware Bay and southern New Jersey, and probably will appear farther to the north. One of the reasons for the spread of the V-bottom is its present popularity in pleasure boats, which serves to make fishermen acquainted with the model in areas where, otherwise, it would remain unknown.

There is probably no model of boat in which the economic factor is more generally misunderstood than the V-bottom. It is usual to assume that the use of straight lines in the body plan of a V-bottom wooden boat indicates an inexpensive hull to build. This is most certainly incorrect.

It must be emphatically stated that the only saving possible in the construction of any wooden V-bottom boat occurs when the mode of construction employed is such that framing is reduced to the minimum of the sharpie. In short, the V-bottom is economical to build only when the bottom plank is laid at an angle to the keel, as in the Chesapeake Bay mode of construction. If the bottom is to be framed and planked lengthwise, it readily can be seen that the frames must be formed and beveled.

In the V-bottom, the frame must be made up of 5 pieces, the floor timber, 2 bottom buttocks and the topside timbers: these usually must be kneed or bracketted at the chines. Hence they require more labor to form than a steam-bent frame of 3 members: 2 frames and a floor timber. Observation indicates that a framed V-bottom is about as costly to form as a sawn-frame round-bottom boat in material and labor.

"Cross" Planking

It is sometimes stated that the "cross" planking of the Chesapeake Bay mode adds to the resistance in driving the hull. This may be true in theory but, in practice, the increase in resistance seems so minute that it is not worth consideration. In fact, it is so slight that it was overcome with slight variation in engine revolutions in 2 launches experimented with over a period of weeks.

Another advantage of the Chesapeake Bay mode of construction is that it gives greater freedom in the shape of the chines. The problems of design in the use of the V-bottom at moderate speed-length ratios have not been explored in model-testing. In the model tests of V-bottoms known to the writer, the chines, in profile, have been carried high forward as in the high-speed planing model of V-bottom.

There are practical reasons for suspecting that a different chine profile forward is required in the lower speed-length ratios, the theory of the writer being that the high chines usually cause full bow lines and therefore too great an angle of attack forward. This is particularly the case when the cross-sections forward are made up of straight, or nearly straight, lines from rabbet to chines. It seems reasonable to hope that model-testing of a variety of V-bottom hull-forms might show that a V-bottom could be designed that would drive as easily or as efficiently at moderate speeds as a round bottom.

A number of experiments with full-size launches of comparable designs have been undertaken which seem to indicate that a V-bottom may exist, or be developed, that requires no more power to drive at low and moderate speed-length ratios than the comparable round-bottom hull. It is obvious, of course, that minute differences indicated in model tests would be of no practical importance in full-sized craft, where slight departures in lines or in the efficiency of the engines, or propellers, might make a far greater difference in observable performance. However, the difficulties in observing and recording results from full-size boats are well-known, and it would be most useful if model-testing were available.

It is important to recognize that one reason why V-bottom boats intended for relative low speed-length ratios have had high chines forward is that this form is easiest

(Continued on page 44)

* This is the fourth of a series of articles on design of small fishing boats by Naval Architect Chapelle of Cambridge, Md. It was abstracted from a paper presented at the recent FAO International Fishing Boat Congress at Miami, Fla.

Southeastern Fisheries Group Discusses Territorial Limits

Producers and Processors Attend Annual Convention at Jacksonville

A BROAD program of benefit to the fishing industry was adopted by the Southeastern Fisheries Association at its second annual convention June 27-29 in Jacksonville, Fla., the organization's headquarters. The meeting, attended by more than 150 fish, shrimp and crab producers and wholesalers from Maine to Mexico, brought these actions:

1. Endorsement of federal legislation to prevent the loss of U. S. fishing boats seized by foreign countries.
2. Proposals to exempt the profits from the sale of fishing boats from Federal income taxes and to consolidate Florida State taxes on fishing boats into a single tax.
3. A recommendation that the supervisor of the Florida State Board of Conservation be appointed by the full Board instead of by the Governor, in order to take the position out of politics.
4. Authorization of a new committee to establish minimum sanitation requirements for persons seeking commercial fishing licenses. (The Association failed, however, to act on a proposal to establish a uniform code for crab packing.)

Herrington Makes Keynote Speech

The keynote of the three-day conclave was sounded by William C. Herrington of Washington, D. C., special assistant for fisheries and wildlife to the U. S. Undersecretary of State, who said that freedom of the seas is being threatened by foreign countries which propose to extend their territorial limits as far as 200 miles into the ocean.

The situation, Herrington declared, is a danger not only to the fishing business but to general commerce. Its most immediate effect, he said, probably would be on the competition for new fishing grounds and new markets in the shrimping industry. He expressed hope that the U. S. can forestall international complications through agreements such as the one reached about a year ago with Mexico over shrimping rights in Latin American waters.

William C. Herrington (left) of the U. S. State Department discusses problems of International fishing rights with two leaders of the fishing industry—Augustin L. De La Barra (center), secretary of the National Chamber of Fishing Industries of Mexico; and Harry F. Sahlman, new board chairman of the Southeastern Fisheries Association.

Some of the new officers of the Southeastern Fisheries Association, from left to right, seated: Louis Fischer of Cocoa, Fla., president; and Harry F. Sahlman of Fernandina Beach, Fla., chairman of the Board of Directors. Standing: John Ferguson of Fort Myers, Fla., second vice-president; J. Roy Duggan of St. Simon's Island, Ga., treasurer; and John Rosenberg of Tampa, Fla., secretary.

Need for More Research

Other speakers hammered away at the need for more research throughout the industry in order to improve the practices of catching, processing and merchandising seafood. Charles W. Bevis, supervisor of the Florida State Board of Conservation, said the fishing industry is operating on a "Model T" basis. Pleas to improve the quality of seafood were sounded by Charles E. Jackson of Washington, general manager of the National Fisheries Institute; and Carlton Crawford of Palacios, Texas, and James E. Brown of Brownsville, Texas, officials of the Shrimp Association of the Americas.

George E. Steele, Jr. of Jacksonville, the Southeastern Fisheries Association's executive secretary, declared that the group must organize more strongly or dissolve itself. Of approximately 800 commercial fishermen, packers and wholesalers in Florida, only 113 are members of the Association, he said.

The possibility that commercial fishing of yellowfin tuna may be established in the Gulf of Mexico was advanced by Donald Y. Aska of the U. S. Fish and Wildlife Service. Aska exhibited a 150-pound tuna, 5½' long, which was caught from the motor vessel *Oregon*, which the Department of the Interior sent to the Gulf to explore for tuna and red shrimp fishing grounds.

Also exhibited at the convention were mullet "fish sticks", a new marketing idea for this variety.

Fischer Named President

The Association elected Louis Fischer of Cocoa, Fla., as its president for 1954-55. He succeeds Harry F. Sahlman of Fernandina Beach, Fla., who became chairman of the Board of Directors. Also elected were Frank Fant of Jacksonville, Fla., first vice-president; John Ferguson of Fort Myers, Fla., second vice-president; John Rosenberg of Tampa, Fla., secretary; and J. Roy Duggan of St. Simon's Island, Ga., treasurer.

Named to the Board were Max Meyer of Jacksonville; John Salvador of St. Augustine; Roy Carpenter of Titusville; Joe Stallone of Miami; Berlin Fenton of Key West; Mike Bassetta of Fort Myers; Harold Nelson of Tampa; R. B. Davis of Cedar Key; William Randolph of Apalachicola; and W. H. Parker of Georgetown—all Florida men.

One of the largest smelt taken in the Escanaba, Mich. area is this 13⅛" fish displayed by Art Servant of the Jensen & Jensen Fish Market. The 9-ounce smelt was caught in a gill net by William Nelson of Masonville, Mich. The smaller fish is a normal size smelt.

Great Lakes Fishermen Are Making Good Perch Catches

In Lake Michigan, Green Bay, Saginaw Bay and in Western waters of Lake Erie, commercial net fishermen have been enjoying one of the best yellow perch harvests in years. Fishermen operating in water from 12 to 15 fathoms approximately two miles out from Lake Michigan's eastern shore were catching more perch than they could market at times. Illinois fishermen, as well as Indiana fishermen, were enjoying good takes in southern Lake Michigan.

Kenneth Vanderburg of Vanderburg Fisheries, Muskegon, Mich., reported catches far ahead of those in the past few years. He attributed the increased yields to lower lake levels.

Over at St. James, Beaver Island, in northern Lake Michigan, commercial fishermen last month were having the best perch run in many years in St. James Bay. Fishermen were taking perch measuring 14 and 15 inches.

From Lake Michigan catches of whitefish were generally fair, with yields of chub, herring and smelt rather light. In the Bay de Noc area, however, walleyes were in good abundance running from 13 to 22 inches in length. In southern Green Bay waters, perch, carp and sucker takes were above commitments.

On Lake Superior, lake trout trolling has been good, with nice catches reported.

Fishing has been heavy on Lake Huron, and takes of whitefish have been fair. Fishermen say that perch from Sebewaing and Wildfoul Bays on Saginaw Bay are rather small in size, while in areas of Lake Michigan, many jumbo perch are showing up in nets. Good catches were reported from Port Crescent, Port Austin, Grindstone City and Harbor Beach, Mich. In the southern waters of Lake Huron bullhead and catfish yields have improved.

Lake Erie commercial fishermen are making profitable yields of herring, white bass, yellow pike and sheepshead. Catfish are starting to run in the Ohio waters of the lake.

Western operators are getting unusually good white bass yields this year. In the eastern area, Circle Fisheries and Smiley Fisheries, at Erie, Pa., produced some nice whitefish catches, and the blue pike harvest was better than anticipated in eastern waters of Lake Erie.

Lake Ontario commercial fishermen are getting some nice perch, yellow pike, white bass, bullhead and blue pike catches in eastern waters.

Lamprey Take Increases

Bill Marquette of Gladstone, Mich., an employee of the Fish & Wildlife Service, reported removing 695 sea lampreys from a trap on the Sturgeon River in Delta County, Mich. recently, the highest single day's catch thus far on any of the Upper Peninsula streams on which electrical screens have been installed. Through June 11 over 10,000 sea lampreys had been taken in traps maintained on Michigan's Upper Peninsula streams.

The catch on nine Lake Superior streams already is twice as heavy this year as it was up to the corresponding time last year. Traps were operated on only nine Lake Superior streams in 1953, compared with 44 this year, in addition to seven Lake Michigan streams.

An extensive investigation into sea lamprey streams is being conducted in the Sault Ste. Marie, Ontario, area by the Great Lakes Research Committee with the help of personnel from the Ontario Department of Lands and Forests.

Dr. J. M. Spiers, secretary of the Committee, stationed in the Canadian Sault Ste. Marie during the operation, reported that about 500 rivers and streams between Sault Ste. Marie and Pigeon River would be investigated.

Plant Trout in Lake Superior

The U. S. Fish & Wildlife Service men recently planted approximately 134,600 fin-clipped lake trout in Lake Superior off Marquette, Mich. They were planted in 15 to 20 fathoms of water. Most of the fish were almost 4" in length and the major portion of them had been reared in the fish hatchery at Pendill's Creek, Mich.

Danger Area Designated

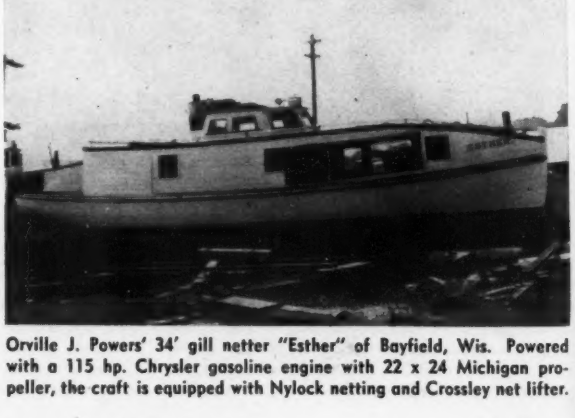
The Corps of Engineers, U. S. Army, has released a report of changes affecting navigation of harbors and channels in the Milwaukee, Wis. District for the calendar year 1954. The Lake Michigan, East Shore area has been designated as "Surface Caution (Danger) Area for Anti-Aircraft and Artillery Water Surface Firing".

The Camp Claybanks firing area will continue to be used for firing at water-borne surface and for anti-aircraft firing at towed targets from 7 a.m. to 7 p.m. Monday through Saturday, until further notice.

Navigation and fishing operators are requested to cooperate with the training program by not entering the danger area unless absolutely necessary. When it is necessary to enter this area, navigation and fishing operators are requested to proceed with extreme caution.

New Harbor Charts

U. S. Lake Survey reports that new charts for several harbors are now prepared, dated May, 1954, and showing all current changes and improvements. The charts cover Milwaukee Harbor; Grand Haven including Spring Lake and the lower Grand River and Manistee and Manistee Lake, Mich. The maps are available for 75¢ each by sending a postal money order to U. S. Lake Survey, 630 Federal Bldg., Detroit 26, Mich., payable to the Treasurer of the United States.



Orville J. Powers' 34' gill netter "Esther" of Bayfield, Wis. Powered with a 115 hp. Chrysler gasoline engine with 22 x 24 Michigan propeller, the craft is equipped with Nylock netting and Crossley net lifter.

California Researchers Studying Sardine Decline

Success of fishery in near future dependent on the number of sardines which move from Mexican waters onto fishing grounds

A recent progress report on the studies of the California sardine reveals that the bulk of the sardine population today is concentrated in the waters off Baja California, where it is largely unavailable to sardine fishermen of the United States. There are fewer sardines in California waters than ever before, and there is little reason to hope that sardine fishing in the next two years will reach the level attained in the years of prosperity.

The most numerous sardine year class present is that spawned in 1952, and evidence points to its being smaller than the 1948 year class. The scientists are able to give some clues as to the causes of the decline in the sardine landings, but are not able to isolate any single primary reason. As the studies progress, it begins to seem more and more probable that it is a combination of several factors that has brought the sardine catch to its low level. Until each of the most important factors can be identified and measured, no complete explanation can be given for the decline in sardine production.

The sardine studies are being carried out as the result of a request to the Legislature by industry leaders for special added taxes on themselves to finance research. The different agencies, financed in part by this new tax, and also using their own funds, have banded together under the Marine Research Committee. They are the California Department of Fish and Game, the University of California, Stanford University, U. S. Fish and Wildlife service, and the California Academy of Sciences. Their program is called the California Cooperative Fisheries Investigations.

Locate Spawning Grounds

During 1952, 1,252 hydrographic stations were occupied by vessels engaged in sardine research studies. The most intense coverage was off Southern California and Baja California, where almost all spawning was found to occur. Several special cruises were made to study sardines in the nearshore areas.

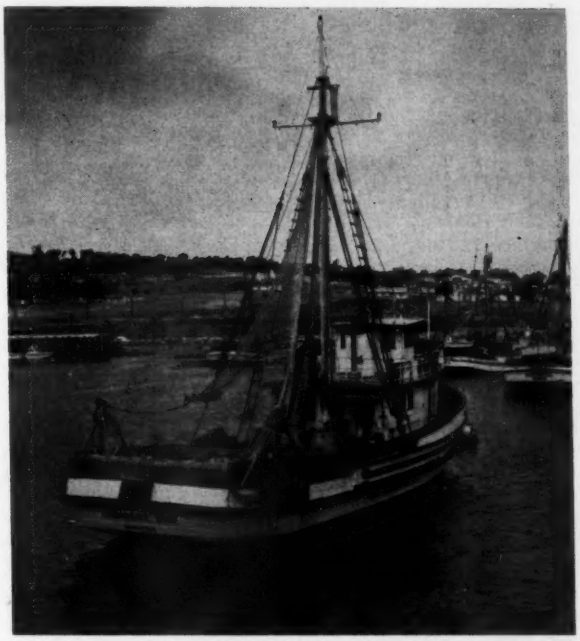
The year 1949 ended with a fairly good fishing season; the year 1952 ended with the worst season in history. It was found that the California Current meandered more in 1949 than in 1952, causing the appearance of the Countercurrent near shore.

The Countercurrent brought warmer waters along the immediate coast during the 1949 fishing season than during 1952. It is not known that this fact bears on the failure of the fishery in 1952, but this is a possibility that will be investigated further.

In four years of survey cruises, the researchers have tremendously enlarged their knowledge of upwelling, the physical factor that results in enriched water and consequent plant and animal growth. It was found that upwelling occurs at more places and times than had been known before.

The scientists have developed a theory that allows them to give a numerical value to upwelling, expressing the amount in distance upward traveled in a unit of time. This potentially very useful method checks well with other upwelling studies, and may point a way for relating upwelling more closely to other quantities measured on the program, such as food production, amount of spawning, and the catch.

Using past studies as a basis for comparison, the scientists have not been able to demonstrate that the plant population of the ocean has changed significantly during the past few years. This negative result by no means closes the door on further investigation of the productivity problem; it is useful in that it indicates the method may be faulty and suggests better ways to get the information.



The Monterey, Calif. purse seiner, "Midnight Sun", now rigged for dragging and catching rock cod, black cod and sole. Owned by Capt. Floyd M. Rhoades and powered by an Atlas Diesel

Studies of adult sardines have shown them to be primarily filter-feeders, straining out any organisms present in the surrounding water. Larval sardines are unable to strain food; they seize it with their mouths. Larval sardines show a definite preference for copepods, which are minute shrimplike marine creatures.

Spawning Has Lessened

Since 1949, sardine spawning has progressively lessened both in amount and extent off California. There has been no noticeable decline in the abundance of either eggs or larvae off central Baja California.

Young-fish surveys indicate that no great numbers of sardines have survived from spawnings since 1948. All age groups of sardines were reduced to a low level by 1952 except the six-month-old 1952 year class; these fish were too young to contribute a large tonnage to the California fishery in the 1953-54 season.

In the past four years researchers have witnessed a decrease in numbers of sardines of all sizes on the California fishing grounds, and a maintenance, but no marked increase, in the numbers in Baja California waters south of Ensenada. By 1952-53, too few sardines of any age group remained on the California grounds to support a fishery. A contraction of the area in which the sardines are caught has been paralleled by a series of poor year classes. Between 1951 and 1952, estimated mortality rates increased greatly over the preceding year's estimate.

The success or failure of the fishery in the immediate future will be largely determined by the number of sardines that may move from the Baja California waters onto the fishing grounds. Estimates of population size have yielded information that indicates a variable net northward movement from Baja California to Southern

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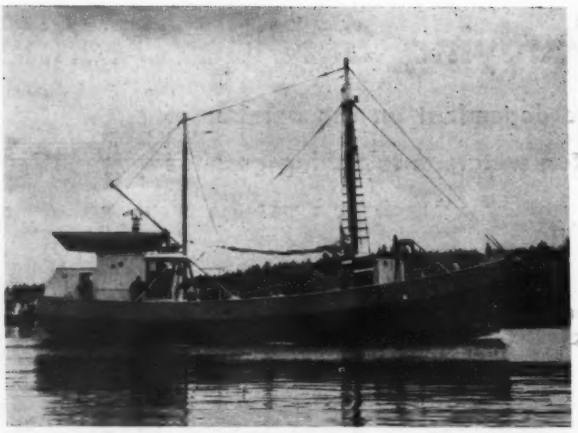


The new 72' Gloucester dragger "Mary Ann", built by Harvey F. Gamage, So. Bristol, Me. for J. Daniel Weitzman, and powered with a 260 hp. Enterprise Diesel.

Whiting Dragger "Mary Ann" Sails on Maiden Trip

The new 72-foot whiting dragger *Mary Ann*, sailed from her homeport of Gloucester, Mass. the middle of June. Launched on May 22 by Harvey Gamage, Shipbuilder, South Bristol, Me., the vessel is owned by J. Daniel Weitzman of Washington, D. C., and is skippered by Capt. Samuel J. Linquata of Gloucester. Charles Palmisano is engineer.

Mr. Weitzman, who is a realtor, became interested in the fishing business after buying a summer home near Gloucester. He spent considerable time on the waterfront, and took a couple of trips on fishing boats, including one with Capt. Linquata. This experience convinced him that he should own a fishing boat, and led to the building of the *Mary Ann*.

Built in three months' time, the new dragger has a beam of 17' and draft of 9'6", and will ice down 85,000 lbs. of fish. Her oak keel is sided 9", sawn oak double frames are 3" thick, spaced on 16" centers; planking is 2" oak and decking is 2½" white pine.

Propulsion power is furnished by a Model DMM6, 6 cylinder, 8 x 10 Enterprise Diesel, rated 260 hp. at 800 rpm., and fitted with Snow-Nabstedt 2:1 reduction gear. It swings a 54 x 40, 3-blade Hyde propeller on a 4" Tobin Bronze shaft, with Hathaway stern bearing and stuffing box.

Left to right: Capt. Sam Linquata, skipper of the "Mary Ann", Mrs. Linquata and Mrs. Weitzman, co-sponsors of the new vessel; and J. Daniel Weitzman, owner.

Auxiliary power is supplied by a Deseco-Lister EHS Fr-1-5110 Diesel unit which operates a 5 kw. Imperial generator, Quincy air compressor and Marine Products pump. Batteries are 115-volt, type HHG-21 Surrette. There are four welded steel fuel tanks of 2500 gals. total capacity, and a 600 gal. fresh water tank.

The fo'c's'le has 8 bunks, Shipmate #10160 oil-burning galley range and stainless steel sink. Two bunks are located in the after cabin, and the Captain's quarters are aft of the pilot house.

The *Mary Ann* is rigged to fish from one side, being equipped with Hathaway 5" gallows frames and No. 1353 Hathaway winch with 20" drums, which have capacity for 300 fm. of ¾" trawling cable.

The dragger is equipped with Bendix depth recorder, Hathaway steerer with 36" wheel, and Shipmate No. 30 hot water heating boiler.

Gloucester to Have Big Trash Fish Fleet This Summer

This Summer the Gloucester trash fishing fleet will be greater than ever. Already the *Catherine B., Frances R., We Three, American Eagle, Catherine, Linda B., Falcon, Josie II, Alden* and the *Rose and Gracie* are engaged in this business. The pogie steamer *Hiawatha* is due soon.

Capt. Virgil Henderson plans to bring up two more pogie boats from down south that together will land over 600,000 lbs. per trip. The dehydrating plants are paying one cent per pound for all trash fish.

Gloucester's trash fish represents what is estimated at a 2½ million dollar industry.

Seventy-Seven Italian-American Boats Blessed

The traditional blessing of the Italian-American fishing fleet took place in Gloucester Harbor on June 27. Bishop Thomas J. Feeney, S. J., native of Boston and Vicar Apostolic of the Caroline and Marshall Islands in the South Pacific, officiated.

The day's program opened with a solemn high mass at the outdoor altar with Rev. Maurice J. O'Brien as celebrant. A religious procession in which a life-sized statue of St. Peter was carried, followed the mass. Seventy-seven vessels in the fleet were blessed on the closing day of the fiesta.

One of the highlights of the event was the annual dory race which was won for the third successive year by the Canadian crew—two Herring Cove, Nova Scotia lobster fishermen, Gerald Dempsey and Richard Nagle in the *Bluenose II*. They competed with two Gloucester men, Winthrop A. Davis, Jr. and William Marchant. The race was very close with a margin of a half boat length or three seconds winning the trophy.

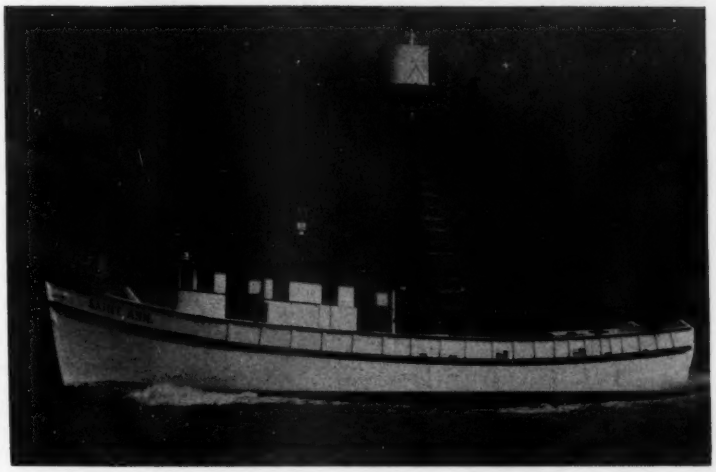
Boats Give up Whiting Fishing

The local whiting fleet of some 60 draggers is understood to have deserted whiting fishing, the reason being that the owners and fishermen feel they cannot operate at existing prices. Steak whiting that is brought into port after being gutted and cleaned has been bringing three cents a pound. Round whiting, brought in as taken from the sea, has brought only 1½ cents per pound.

Whiting production has been abnormal this year, with as many as 90,000 lbs. taken in a single fare. There were days when the total landings reached 600,000 lbs. Some of the whiting boats are shifting over to other types of fishing, such as shore or "trash" fishing.

Blessing of Portuguese Fleet

One of the largest crowds ever to witness the Blessing of the Portuguese fleet, estimated at over 10,000 people, lined the streets on June 20 to watch a colorful and religious parade and ceremony, highlighted by the blessing at State Fish Pier. Twenty fishing vessels, gaily bedecked in banners and flags, were tied up at the Fish Pier before



New 67' x 18½' x 6½' mackerel seiner "Saint Ann" built for Capt. Leo Favalora of Gloucester, Mass. by Diesel Engine Sales, Inc., St. Augustine, Fla. Has 205 hp. General Motors Diesel, 50 x 44, 5-blade Columbian propeller, 3" Tobin bronze shaft, Goodrich Cutless stern bearing. Other equipment includes Onan auxiliary generator, Ritchie compass, Shipmate stove and Columbian rope. She is finished with International paint.

an improvised rostrum, and thousands of people crowded around as Msgr. Stephen E. DeMoura, pastor of Our Lady of Good Voyage Church, blessed the craft.

Capt. John Norte was general chairman of the affair, with Simplicio Bichao as co-chairman.

Dragger Sinks After Collision

The Gloucester fishing dragger *Nyoda* sank on June 11 seven minutes after she was in collision with the Boston trawler *Flying Cloud* which brought the four-man crew of the *Nyoda* into port. There were no injuries.

The *Flying Cloud*, laden with 160,000 lbs. of groundfish, was bound for Boston and the *Nyoda*, skippered by Gaspar Frontiero of Gloucester, was on her way to the fishing grounds. The vessels collided about 27 miles southeast of Gloucester.

Massachusetts Group Discusses Exploratory Shrimp Fishing

Gov. Herter's labor-management committee to promote the Massachusetts fishing industry held its fifth meeting on June 23, and discussed the importance of exploratory fishing for shrimp and other species in the waters of New England. It was pointed out that funds for the work should soon be available under the terms of the Saltonstall-Kennedy bill.

Francis W. Sargent, director of the Division of Marine Fisheries and chairman of the committee, reported on the recent ten-nation meeting in Halifax, N. S. Sargent stated that as one of the U. S. Commissioners he was encouraged to note that all nations appear anxious to consider a trawling regulation for the Nova Scotian fishing grounds and the Grand Banks off the shores of Newfoundland.

Sargent introduced Joseph F. Puncochar, chief of North Atlantic Technological Research for the Fish & Wildlife Service, who presented a report pertaining to freezing fish at sea and the possibilities which this project presents to the local fishing industry.

The committee has requested that Gov. Herter urge the Department of the Interior to allocate sufficient funds for maintaining operation of the experimental trawler *Delaware* in North Atlantic waters for exploratory fishing and other purposes.

The next meeting of the Governor's committee is scheduled for July 7 to discuss methods of improving the whiting fishery which is considered to be of increasing importance, particularly to the small trawlers of Massachusetts.

Big Days at Fish Pier

During June vessels landing at the Fish Pier brought in over one million pounds on four different days. On June 1, 30 boats arrived with 1,423,100 lbs. of fresh fish at market opening. On the 3rd a fleet of 14 boats reported with 1,009,900 lbs. fish. On the 7th the Fish Pier had 19 boats with 1,396,900 lbs., and on the 14th 25 boats landed 1,552,800 lbs.

Fishing Industry Exhibit in Boston

A Fisheries Exposition was held at Jordan Marsh Company's annex in Boston during the week of June 7 as part of Natural Resources Week. The Marine Fisheries Division's portion of the exhibition was worked out by Francis W. Sargent, director, with his fishery biologist assistants, Richard W. Burton and Charles L. Wheeler.

Various types of gear and equipment used in the commercial fisheries were included, from the clam hoe to the otter trawl. There was a model pilothouse of a fishing vessel through which people could walk and see the latest electronic equipment used on board today's dragger.

Rhode Island Quahaugs To Be Transplanted

Spokesmen for all segments of the Rhode Island shellfish industry tentatively agreed last month to a proposal by John L. Rego, state director of agriculture and conservation, for transplanting quahaugs from polluted to clean waters of the state.

Rego stated that quahaug dredge boat operators who will take the shellfish in the deep waters of the Providence River will be paid between 60 and 75 cents a bushel, and hand tongers and bullrakers working in shallow waters, about $1 a bushel.

Shellfishermen's fears that the ease with which the cleansed quahaugs can be taken will result in flooding the market were allayed by dealers and processors present. Rego said the conference was told by F. Nelson Blount, Warren processor, that the price would not be adversely affected if no more than his daily need of about 2,500 bushels is produced.

Warren B. Finn, Jr., East Greenwich dealer, told the meeting he could handle up to 1,000 bushels of littlenecks a day. The existing limitation on the catch is 30 bushels a day for dredgers and 20 bushels for hand workers.

Swordfish Season Opens

The Block Island swordfishing season opened with a double catch by islanders on June 20. Capt. Harold Lawry, Jr., who landed the season's first one last year, got the first one again this year when he harpooned a 360-lb. fish southeast of the island with a hand-hurled harpoon.

The other sword was brought in by Capt. Olav Olsen. It was a 160-pounder. The purchase prices on the fish were reported at $1 a pound on the island and $1.25 at Point Judith.

J. T. Hoard's 72' x 20' x 8' shrimper "Aquarius" of Aransas Pass, Texas. Built by J. Covacovich Boat Yard of Biloxi, Miss., she is powered with a 205 hp. General Motors Diesel which swings 4-blade, 52 x 44 Columbian wheel on 3" Monel shaft.

Texas Experimenting with Transplanting of Crabs

The Texas Game & Fish Commission has been conducting experiments to learn if the blue crab, common to the Texas Gulf Coast, can be transplanted successfully in fresh water.

Cecil W. Reid of the Rockport Laboratory stated that although native to salt water, the blue crab has been found in the fresh water of Neuces River. Biologists explain that while some salt water specimens are known to survive in fresh water, there is no known instance of their being able to reproduce. If it is found that crabs can survive and reproduce in fresh water, it would be a simple procedure to stock fresh water areas since a female crab bears from 500,000 to 2,000,000 young.

Shrimp Production near Normal

In spite of unfavorable weather conditions and almost total absence of marketable shrimp in the central coastal bays, shrimp production is approaching normal for this time of year.

Bay shrimping on the upper coast has been fair, but sizes are small, grading 30 and over. Few boats in the Rockport-Aransas Pass area did bay shrimping during the 30-day period ending June 20. Strong winds and heavy rough seas prevented day shrimping, and only a few trawlers worked the bays or ventured far offshore at night.

Total landings at principal ports for the period were 15,230 barrels of shrimp and 82,150 lbs. of bay fish.

Oyster production in the Galveston-Sabine area is over for the season, with a yield 400 per cent over that of the preceding year.

Dredging Projects Would Benefit Fishermen

The House Public Works Committee recently approved two projects in the central Texas coast area which would be of great benefit to the fishing industry. Construction of the $40,000 Turtle Cove basin at Port Aransas would provide a safe harbor for use during storms. As proposed, the basin would be 900 ft. long and 300 ft. wide with a depth of 9 ft.

The second project, to cost $30,700, would make a cut-off on the Intracoastal Canal to by-pass Port Aransas. Another project of interest to fishermen is a proposed harbor at the mouth of Guadalupe River, near Seadrift. The basin would be 2,000 ft. long and 1,000 ft. wide and would be dredged to a depth of 9 ft. The total cost of the basin would be $74,300.

Shrimp Trawlers to Be Blessed

Hundreds of gaily-decorated shrimp trawlers, both from Port Isabel and Brownsville, were expected to participate in Port Isabel's second annual boat parade and Blessing of the Fleet ceremony on July 4. Prizes were to be awarded the best decorated boats.

Seafood Production Shows Increase in April

Landings of fishery products at Texas ports during April totaled 4,583,700 lbs., compared with 2,707,600 lbs. landed during the same month in 1953. This represented an increase of 69 percent compared with April of last year.

Shrimp receipts amounted to 2,886,900 lbs., and accounted for 63 percent of the total Texas catch during the month. There were 2,496,300 lbs. of shrimp landed during April of last year. Menhaden production was 1,447,900 lbs. and accounted for 32 percent of the total catch. No menhaden was landed during the same month in 1953.

Total yield of all species for the first eight months of the current fiscal year, beginning on September 1, 1953, amounted to over 68 million lbs., compared with about 52 million lbs. landed during the same period in the last fiscal year.

Mississippi-Based "Oregon" Makes Successful Tuna Trip

The exploratory vessel *Oregon* returned to Pascagoula from a six-week exploratory cruise in the Western Gulf of Mexico and Gulf of Campeche on June 18 with 3000 pounds of yellowfin tuna. It was one of the largest catches of tuna to be made since the Fish & Wildlife Service vessel began its exploratory work in this area some three years ago. One of the principal objectives of the work is to attempt to find commercial sources of tuna.

Stewart Springer, fishery methods and equipment specialist, said the tuna averaged 118 lbs. The yellowfins were mature fish in spawning condition.

During the 2500-mile cruise, port calls were made at Vera Cruz, Mexico and at Brownsville and Aransas Pass, Texas. Shrimp drags also were made on the northwest part of the Campeche Bank, but catches were poor.

Arrangements are being made to have some of the tuna caught by the *Oregon* test-canned at Government laboratories and commercial canneries for quality evaluation.

According to Donald Y. Aska of the Fish & Wildlife Service, until recently it was believed that commercial fishing for tuna in the Gulf was not feasible. However, he pointed out that reports from the *Oregon's* expedition assert that "the existence of this valuable commercial species in the Gulf opens up inestimable possibilities for commercial fishermen."

Aska said, furthermore, that by using an adaptation of the Japanese long line type fishing methods, where buoys are set out with a number of lines fixed between them, the fishing operation is made relatively inexpensive as compared to the techniques used in the Pacific.

Aska said a winch-type rig for a boat and overboard gear would come to approximately $3,000, and that the fishing could be done from a boat with a five-man crew, similar to the present shrimp and snapper boats used in Gulf waters.

Gunnery Practice Area

The Mississippi Air National Guard, Gulfport, has advised that air to air gunnery practice will be conducted in the area described below in daylight hours during the periods of July 12-24 and August 2-13, all dates inclusive.

Starting at a point at latitude 30° 13'30" N. longitude 88° 01'30" W.; thence due south to latitude 29° 38'30" N., thence northwesterly to latitude 29° 46'00" N., longitude 88° 52'40" W.; thence due north to latitude 30° 03'00" N.; thence northeasterly to the point of beginning.

Florida Gets Red Tide Research Vessel

A new research vessel has been delivered to Ft. Myers for use in studying ocean conditions which cause red tides, a marine plague that kills millions of fish in west coast Florida waters. The new vessel, which was partially equipped when delivered, was used immediately for limited operations prior to outfitting early in June with instruments to measure water temperatures and to obtain water samples for tracing occurrences of the microorganism which causes red tides.

The new vessel will be used to make routine surveys to locate concentrations of microorganisms and to experiment with control chemicals and to pursue studies of ocean currents along the Florida coast.

Red tides result from rapid reproduction of a microbe called *Gymnodinium brevis*, which is so small that it is invisible to the human eye. Billions of these microscopic creatures color the sea water red or amber because of pigment granules contained in each one.

Poisons, which are deadly to fish and other marine animals, also are produced. These sometimes are carried inland in tiny droplets and wind-borne spray causing persons in areas near the beaches to develop symptons similar to a cold or severe respiratory irritation.

After a large outbreak in 1946-47 the Fish and Wildlife Service commenced biological studies to learn the principal underlying causes of red tides, with the aim of developing control or preventive measures. The studies to date indicate that red tides seem to occur after periods of heavy rain followed by winds blowing toward shore.

Red Tide to Be Studied in Venice Area

The Interior Department has promised a group of Florida men that it will send research personnel to the Venice area to study the red tide problem. A spokesman for the Florida delegation, Art Higbie of Venice, said the assurance was given by Dr. L. A. Walford of the Fish & Wildlife Service. Research on the red tide problem already is being conducted at Galveston, Texas and Fort Myers, Fla.

Chief point of discussion between the Fish & Wildlife Service officials and the Florida delegation was a proposal to build a year-round laboratory in the Venice area for research on the red tide problem. Higbie said Secretary of Interior McKay and other officials expressed great interest, and most of the discussion concerned the cost and design of the proposed laboratory.

Rules on Spending of Fisheries Funds

Atty. Gen. Richard W. Ervin ruled last month that the State Board of Conservation must spend its fisheries research funds only through the University of Miami Marine Laboratory. He said a long-standing contract with the University of Miami—renewed for two years on May 11—makes the institution the exclusive research agency of the Conservation Board and requires a planned research program to be submitted with each annual conservation budget.

The budget for the new fiscal year beginning July 1 provides for $121,000 to be spent by the University of Miami for general marine investigations, shrimp and red tide studies, etc.

Martin Malen's 42' mackerel and shrimp boat "Ce-Mar" of Bayou La Batre, Ala. She is finished with International paint, and her equipment includes 165 hp. General Motors Diesel with 1.5:1 Twin Disc reduction gear and 24 x 20 Michigan propeller, Surrette batteries, Plymouth cordage, Linen Thread Co. Gold Medal nets, Northill anchor and RCA direction finder. RPM lubricating oil is used.

The "Starlight", 64' shrimper owned by Earl Dickson of Gulf Shores, Ala., and powered with a 120 hp. D13000 Caterpillar Diesel. The craft was built by Diesel Engine Sales, Inc., St. Augustine, Fla., and operates out of Tampa.

Dealer and Boat Licenses Due

New annual licenses for Florida seafood dealers and salt-water fishing boats went on sale last month. The licenses must be obtained by wholesale and retail seafood dealers and all boats of combined length and breadth of more than 20 ft. that are used for salt-water fishing in Florida. The deadline for their purchase was July 1.

Alabama to Study Mortality Of Fish at Mobile Bay

A marine biologist with the Alabama State Conservation Department said last month that he is preparing to begin a scientific investigation into what is causing dead fish, shrimp and crabs to be found on the shores of Mobile Bay.

Harold Loesch, who is stationed with the department's seafood division at Bayou La Batre, visited spots on Mobile Bay, including the waters off Daphne and Montrose and made preliminary inquiries.

Crabs, shrimp and fish have been found on and near the beaches appearing to be almost rushing to get out of the water. There is a general belief that the phenomenon is caused by a mixture of salt waters rushing rapidly in from the Gulf of Mexico and mingling with fresh waters coming down from Alabama's river system into the bay.

Oystermen End Poor Season

Alabama oystermen ended a poor season with the closing of public reefs early last month. One reason given for the decline in production was that fresh water carried down by Mobile Bay currents destroyed some of the crop.

New Bedford Dragger Catching Lobsters in Deep Waters

The 57-ft. vessel *Sea Hawk*, owned by Capt. William Main, which spent the winter months shrimping, has been converted to New Bedford's largest lobster dragger. Capt. Main averages more than 3,500 lbs. of lobsters per trip.

A water tank on the deck of the vessel fed with circulated sea water keeps the catch alive. The average time for a trip is five days, as the boat trawls off distant grounds.

Buyers are impressed with the prospect of rejuvenating the lobster industry, and Francis W. Sargent, director of the State Division of Marine Fisheries, stated deep-sea trawling for lobsters may prove a boon to the New England lobster trade. Mr. Sargent added that the old lobster ground southeast of Cape Cod is now very poor, possibly because of the change in water temperature.

William D. Eldridge of L. S. Eldridge & Son, Inc., stated he would seek markets for lobsters and that if the product was brought to this port in sufficient poundage, it would encourage buyers to set up processing plants. Hervey E. Tichon of Tichon Fish & Fillet Corp. agreed the business would be an aid to New Bedford and estimated it would cost between $25,000 and $50,000 for a processing plant large enough to make it pay.

William Q. MacLean of MacLean's fish market at Union Wharf in Fairhaven now can handle 25,000 lbs. of lobsters and would be able to supply an immediate market.

When the *Delaware* — experimental freezing trawler operated by the Fish & Wildlife Service—goes offshore this Summer it will bring back to port alive in tanks all lobsters taken by trawl on the banks and off the edge of the continental shelf. The lobsters will be turned over to the Massachusetts Division of Marine Fisheries for experimental planting initially in a pound on the North Shore to determine whether the shellfish will survive in warmer coastal waters.

If the experiment meets with success and indicates that the transplanting of offshore lobsters is practical, it then would be possible to transfer large quantities of deep-sea lobsters for release along the Massachusetts shoreline to augment the local inshore population of lobsters. By means of Monel metal tags attached to the lobsters, data could be gathered as to whether or not the released lobsters would remain in local waters.

Fish Wharves to Be Repaired

Repairs to the New Bedford wharves amounting to $75,000 have been voted by the City Council and hailed by waterfront men as a progressive step toward aiding one of the city's major industries, the fish business. Repairs to Piers 3 and 4 and Homer's Wharf will modernize the port and make available adequate facilities for shipping as well as for the fishing industry.

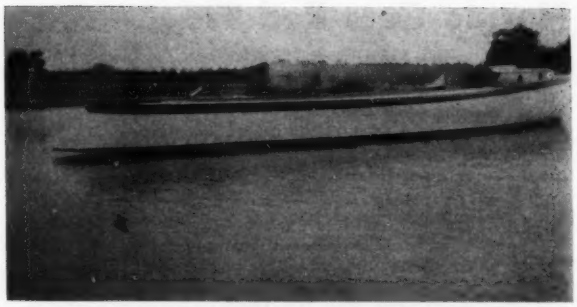
Boat owners and captains long have complained their vessels have been damaged because fender piles are missing. Furthermore, unloading of vessels is made difficult for lumpers and fishermen because of lack of tie-up facilities.

May Fish Receipts Down, Prices Up

In a review of the trends and conditions of the fisheries of New Bedford during May, compiled by George W. Snow of the Fish & Wildlife Service, it was revealed that landings of edible fish showed a decline of approximately 12 per cent compared with 1953 figures. Sharpest declines were noted in scallops, lemon sole and tile fish.

Prices for most species were higher this year during May than they were in 1953. Average prices per pound for gray sole, lemon sole and blackback were between 2 and 3 cents more. The average price for sea scallops was approximately 13.75 cents per pound under last year's average.

A total of 9,254,500 lbs. of fish and shellfish were sold at Pier 3 during May.



The "Woodrow", 46' boat which does commercial and party fishing out of Cambridge, Md. Owned by Capt. George W. Leonard, the craft is finished with International paint and is equipped with Ederer nets, Exide batteries, Hyde propeller and Northill anchor. She uses Esso lubricating oil.

New York Seeks Cause of Fish Mortality in Bay

New York State Conservation Department officials continued last month their hunt for a clue to the killing of tens of thousands of food fish in lower New York Bay since early May. The cause remained undetermined even after extensive chemical tests by the Bureau of Marine Fisheries Laboratory at Freeport.

Dr. Alfred Perlmutter, senior aquatic biologist, said the gill structure and internal organs of two weakfish and a striped bass that he examined appeared to be in normal condition. Water samples from the area did not show excessive pollution, according to a report of the Sanitation Unit.

Alfred Tucker, superintendent of the Department's Freeport office, said the initial reports of dead fish, received early in May, were mostly of striped bass off the Staten Island shore.

Scalloper Damaged in Collision

The deep-sea scallop boat *Major J. Casey*, Capt. Fred Kart of Greenport, docked at Tyler's wharf last month badly damaged as the result of a collision with the sea scalloper *Sea Ranger*. The mishap occurred about 12 miles east southeast of Nantucket Lightship in a dense fog. The sharp bow of the *Sea Ranger* cut a deep gash about midships on the port side of the *Major Casey* from the deck to the water line.

The force of the collision so damaged the hoisting machinery that it was impossible for the crew to haul up their dredge which was overboard at the time, and it was necessary to cut the steel cable and lose the dredge.

The cargo, consisting of about 10,000 lbs. of sea scallops, was unloaded and taken to Pell Bros. Sea Food Market and from there shipped to the firm of R. J. Cornelius, Fulton Market. As soon as the cargo was unloaded, the *Major Casey* was hauled out at one of the local shipyards for repairs.

Good Catches of Sea Bass

Trawlers late last month were bringing in good catches of sea bass to Long Island ports, and it was expected that this species would be found soon in quantity in the bay. Porgies have not as yet shown up in any amount. Blackfish, too, are light, with fluke the most abundant fish as yet.

Capt. W. S. Adams Retires

Capt. W. S. Adams of East Marion, who for over 60 years was actively engaged in the trap fishing business, has sold his fishing boat to Capt. William Davis, harbor master at Greenport. Although Capt. Adams was not active in the fishing business for the past few years, he still kept his fishing boat which he used occasionally.

Maine Plant of General Foods Resumes Fish Production

The Birds Eye Division of General Foods at Rockland was back in production last month when three trawlers returned to port from the Grand Banks. The quick-freeze fillet plant had been shut down since May 30 when trawler crews, represented by the Atlantic Fishermen's Union, refused to put to sea in a dispute over wages and sailing conditions.

Company officials said that about 15 workers reported at the freeze plant on the 26th with the arrival of the *Calm* with 225,000 lbs. of fish. The *Surf* reached port on the 27th with 170,000 lbs. and the *Drift* came in on the 28th.

The three vessels put to sea on June 16 with crews supplied by a newly-organized union, the Maine Fishermen's Association, an independent group. The crews, about the same which usually man the trawlers, were signed as individuals through the Company personnel office, as the company does not have a contract with either the new union or the Atlantic Fishermen's Union.

The AFU has objected to a company proposal that the traditional 60-40 division of profits between company and crew be replaced by a guaranteed basic wage plus bonuses based on the size of the catch. The present crews are being paid under the new method.

To Conduct Extensive Herring Studies

Why do herring come streaking and crowding into coves and inlets, and why do they pick one cove and not another? Is the herring population going up or down? Are diseased herring likely to improve if injected with a wonder drug like penicillin or aureomycin?

At least partial answers to these difficult questions will be sought by a team of biologists doing herring research this summer at the Fish & Wildlife Service laboratories at McKown Point. Heading the project will be Carl J. Sindermann who with Leslie Scattergood recently completed a detailed study of herring diseases.

Assisting in the work will be Aaron Rosenfield, a bacteriologist from the University of Texas. Also working on the project will be Mrs. Philip Goggins, who has been assisting in herring research for several years.

Men in the herring industry, Mr. Sindermann pointed out, would benefit if they knew how to increase the availability of herring and how to predict when and where they will show up.

Sardine Advertising Program

Maine sardines will get a big plug in press and radio advertising this year. Ads will be placed in newspaper Sunday supplements in 30 cities, while 121 radio stations will carry spot announcements several times weekly. Six consumer magazines and 10 grocery, restaurant and institution trade papers also will carry ads.

The promotion, financed by a 25¢ a case tax on sardine production, will feature sardines as "ideal food for warm weather dishes".

McKown Aquarium Opens

McKown Point's marine aquarium operated by the Sea & Shore Fisheries Department opened for the summer on June 19. On display for the public are such oddities of the deep as lumpfish, sea ravens, basket starfish and squid eggs. Seals also are to be seen in a pen moored alongside the station's pier.

The Department's fishing boat *Explorer*, Capt. Thurlow Farmer, has been prowling region waters collecting specimens for the aquarium. Four seals were netted recently and a variety of examples of fish and other marine life have been collected.

Lobsters, over-sized ones, odd-shaded ones, and one at home in a section of trap set into one of the tanks, are on display. Other clawed and crawling creatures include eel grass crabs, hermit crabs and spider crabs. There also are giant clams, scallops and quahogs.

Norman Crossman of Brewer, Maine, who saws trap material for lobstermen, shown measuring a trap at Corea to get the correct dimensions.

Seafoods Festival Advertising

The biggest lobster in the world—a giant truck mounted float of the Rockland Lobster Dealers, on which Maine's Sea Goddess will ride, was scheduled to be sent to New York for the Lions International Convention parade July 6. Maine Seafoods Festival President Harold W. Look, a lobster dealer, said the giant shellfish would go along as part of the port of Rockland drum and bugle corps contingent in the parade.

Look announced that Lobster Festival program booklets would soon be available, and that in the meantime the Rockland Chamber of Commerce was mailing out small flyers announcing the Festival on August 6, 7, and 8.

Rockland Groundfish Landings for June

Totalling 2,244,300 lbs., groundfish landings at the port of Rockland for the month of June were about 29,000 lbs. less than in the previous month. Most of the catch consisted of ocean perch, landings of this variety having amounted to 2,144,700 lbs. The catch was heaviest on the 2nd, when 343,900 lbs. were brought in.

Tupper Confers on Marine Research Work

Maine's Commissioner of Sea and Shore Fisheries, Stanley R. Tupper, left July 6 for Washington to confer with U. S. Fish and Wildlife officials relative to plans for more extensive marine research made possible through favorable action on the $3,000,000 fisheries research bill.

Commissioner Tupper is particularly interested in a proposed program of exploratory fishing and gear development to discover new fishing grounds and improve methods of detecting and capturing fish; research directed toward finding an artificial lobster bait; a better statistical program with emphasis on market news service; and additional Federal clam investigations.

New Light Lists Available

The 1954 editions of the following lists of lights are now available and may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., or from sales agents located in the First Coast Guard District:

Volume I—Local list of lights and other marine aids, Atlantic Coast, from St. Croix River, Maine, to Watch Hill, Rhode Island—Price $1.25.

Volume I-VI—Complete list of lights and other marine aids, Atlantic and Gulf Coasts, including the West Indies. This volume is a composite list of Volumes I to VI, inclusive, with suitable cross reference to facilitate its use by navigators operating in more than one Coast Guard District—Price $4.25.

Oregon Gillnetters Making Good Salmon Hauls

The June gillnet season on the Columbia River below Bonneville dam opened June 25 with good catches for early summer. The reported high boat had an upriver catch of 2700 pounds, but this fisherman drifted nets for the 30 hours from opening time until the noon week-end closure the next day. Most catches ranged up to 600 pounds on a day's or night's fishing. Chinook and blueback salmon showed on the length of the river, and some gillnetters landed good catches of steelhead in the estuary area near Astoria.

Prices to fishermen were expected to be about the same as the 27 cents paid on chinook and blueback and the 16 on steelhead in the June season of 1953.

Charleston Has Good Crab Season

A good crab season has been experienced at Charleston, Oregon this year. Although the season does not officially close until August 15, little activity was expected after the end of June. About 25 local crab boats, and as many more from California ports between San Francisco and Crescent City, have been operating in Charleston. More boats than usual from California fished out of Charleston this year because of a short crab season in California.

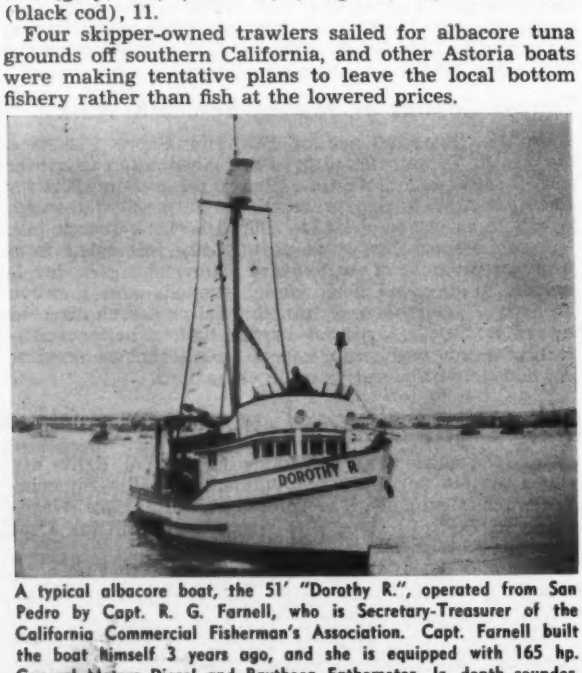
Price Dispute Ties Up Astoria Draggers

The Astoria drag fleet of about 25 boats, remained tied in port through the July 4 holiday in protest against a one-cent-a-pound cut on prices of bottomfish.

Boat owners and crewmen sat down June 24, effective date of the price cut, and refused to fish at the new prices. Packers said they could not compete on the frozen fillet and fishstick market at former prices, while boat operators said they were making a minimum living under old prices.

Former prices, paid in Astoria during the past year on catches limited by buyers, were: rex sole, 4 cents; petrale sole, 7½; English sole, 6; dover sole, 5; Pacific perch, 4; true (grey) cod, 4; rockfish, 4; ling cod, 7½; and sablefish (black cod), 11.

Four skipper-owned trawlers sailed for albacore tuna grounds off southern California, and other Astoria boats were making tentative plans to leave the local bottom fishery rather than fish at the lowered prices.



A typical albacore boat, the 51' "Dorothy R.", operated from San Pedro by Capt. R. G. Farnell, who is Secretary-Treasurer of the California Commercial Fisherman's Association. Capt. Farnell built the boat himself 3 years ago, and she is equipped with 165 hp. General Motors Diesel and Raytheon Fathometer, Jr. depth sounder. The "Dorothy R." has been second highest boat in the albacore fleet for the past two years. She operates with six-man crew and carries 30 tons of refrigerated fish.

Asks Hoover Group to Consider Fisheries

A plea that the Hoover commission task force give consideration to conservation of the Pacific Coast's fisheries resources in any recommendation it makes for governmental reorganization was made last month by John T. Gharrett, research co-ordinator for the Pacific Marine Fisheries Commission.

Appearing before the 18-member water and power task force of the Commission at a Portland, Ore. hearing, Gharrett pointed out that perpetuation of the fishery resources of the entire coast hinges on such consideration.

The fisheries commission, he emphasized, is not seeking preferential treatment. It only asks that its problems be considered in the planning for development of multiple uses of coast river waters.

California Tuna Clippers Landing Big Catches

Good catches of tuna have been made by the California fleet recently during an apparent northward migration of tuna to grounds closer at home, like Morgan and Lusitania Banks and other favored spots off Lower California.

On one day in June, 10 boats brought 1200 tons of tuna to canneries in the Los Angeles Harbor area which includes Terminal Island, Wilmington and Long Beach.

Another big performer during the month was the Van Camp clipper *White Star*, 87 days out, which had 400 tons of prime fish.

At the beginning of the final week of the month, boats were reported congregating around Cape San Lucas where yellowfin and skipjack were reported in a biting mood and being taken by bait boats in unusually heavy quantities for that area.

After seven months in the tropics, the steel purse seiner *California* caught 1270 tons of tuna, worth around $400,000, and shipped all but her last load to the canneries in the refrigerated holds of freighters before coming home for inspection and overhaul. The clipper *Mariner*, out 83 days, returned with 230 tons of fish.

Trips of many vessels, small and large, during June ranged from 28 to 114 days, although the latter is longer than usual for this year. The clipper *Ecuador* took 440 tons of tuna in 112 days; the *American Beauty* 340 tons in 90 days; the *Star Crest* 170 tons in 38 days; the *United Victory* 202 tons in 30 days; the *Renown* 270 tons in 94 days; the *Golden Glow* 145 tons in 45 days; the *Lou Jean* 185 tons in 33 days; the *Jeneta* 150 tons in 28 days.

San Diego Sets Tuna Record

A port record was established at San Diego during the weekend of June 18 when 16 clippers, bringing a total of more than 3,000 tons of tuna valued at approximately a million dollars, arrived from the Mexican and Latin-American fishing banks.

The clippers included the *Zarco, Venetian, Conte di Savoia, Jeanne Lynn, Renown, Victoria, Trojan, St. Anthony, Sun Venus, St. Francis, Marjorie Pearl, American Beauty, Ecuador, Mary Jean, Lone Wolf* and *Portuguese.*

The following week, the *Western Ace* arrived with a record catch of 530 tons.

Tuna Pack Shows Sizable Increase

California's canneries turned out nearly 41 million cans of tuna and mackerel—worth more than $12 million—during May, 1954, according to the Fish and Game Department. Terminal Island canners, it was estimated, contributed about half of the total.

The tuna industry led the mackerel industry with 40,400,000 cans valued at $12,600,000. Only 365,000 cans of mackerel were produced. They were worth about $68,000.

Converted into cases, there were 841,751 units of tuna in May and 7613 cases of mackerel. Lightmeat tuna ac-

Capt. George Hamilton, Jr. of Seattle, Wash., and his 55'x 16' x 7' seiner "Janice" which operates out of Ketchikan, Alaska. Right: the boat's D337 Caterpillar Diesel.

counted for the largest single division of canned fish, 713,377 cases. Albacore was runner-up with 121,665 cases.

The May tuna pack of 822,000 standard cases was 19 percent more than the same month in 1953. The pack for the first five months of this year totalled 3,190,000 cases, an increase of 27 percent over the same period last year.

Negotiating Albacore Price

Against a demand for $450 per ton for albacore, fish canners in Southern California late in June were offering fishermen $400, or $25 more than offered earlier.

Failure of this choice white meat tuna to put in its appearance during June, as in recent years, minimized the seriousness of the delay in arriving at a price agreement.

The fish are taken by long-line jig boats, which are small craft. The purse seine and live bait clipper fleet are not affected by the negotiations.

During the latter part of June a large fleet of albacore boats were outfitting at San Diego for the first strike of fish which was expected to take place by the end of the month. A large number of trollers that fish for halibut and salmon in other seasons had arrived at San Diego from fishing ports along the coast as far distant as Juneau, Alaska.

Tuna Boats to Fish Chilean Waters

As a result of successful explorations for tuna in southern waters off the coast of Chile, three eighty-ton purse seiners operated by Star-Kist Foods, Inc. of Terminal Island will be based at Iquique, Chile. They are the 77' *Excellent*, Capt. Polly Mardesich; 80' *Oakland*, Capt. Jack Borcich; and 80' *Virginia II*, Capt. Andrew Tipich. The vessels left Terminal Island on June 24, and will remain in Chile as long as fishing is successful. Their catches will be transshipped to California.

The firm's *Star-Kist*, skippered by Tony Marinkovich, port captain of the Star-Kist fleet, recently completed a six-months' exploration trip off Chile to determine how far south tuna extended. The vessel travelled 4200 miles south of Terminal Island, and this was reported to be the first attempt at tuna fishing in waters of this area.

A fair supply of tuna was found 400 miles south of Valparaiso, and a good supply off the Chile-Peru border. The *Star-Kist* was away from port six months on its test trip, during which it caught 85 tons of tuna, the catch being mostly yellowfin and skipjack with a few albacore.

Two Clippers Under Construction

The first new tuna clippers to be built since 1952 are under construction at National Steel & Shipbuilding Corp. in San Diego. One is being built for Capt. Joe Soares and the other for Capt. George Soares, both of San Diego. Identical in construction and design, the vessels are of welded steel, with length of 127', beam of 30'6" and draft of 15'. Each will be powered with a Model DMG38, 800 hp. turbo-charged Enterprise Diesel with 2:1 Universal reduction gear, and will have capacity for 345 tons of fish.

Record Salmon Run at Crescent City

An unusually heavy run of chinook salmon was enjoyed by the northern California salmon trolling fleet during the month of June. The season opened May 1 and generally the first big run does not occur until July. While most of the fish up through the end of June were chinooks, some silvers were beginning to show up, and increased catch of this species was anticipated. It is estimated that nearly 150 boats were operating out of Eureka, while Crescent City had approximately 100 salmon trollers, including 65 local boats and 35 from Coos Bay, Astoria and Eureka.

The biggest run occurred around the middle of the month with large boats catching up to 2,000 fish and smaller boats getting between 500 and 700. By the last of June the catches had dropped somewhat, ranging from 200 to 1,000 fish. The fish averaged 8 lbs. in weight and there was a large percentage of big fish. Prices were reported to be holding up well, ranging from 27 to 34 cents per pound, according to size.

According to A. B. Lindstrom of the Salmon Marketing Association, the run of salmon from Redding Rock to Crescent City, was greater than it had ever been. During the third week in June, 182,000 lbs. of salmon were landed at Eureka.

Two Tuna Boats Burn

Two large Southern California tuna boats burned and sank at sea in June with loss of more than half a million dollars. The big clipper *Santa Barbara*, owned by N. C. Andrews of Los Angeles, went down off Panama and the crew was rescued by a tanker.

The 101' *Anna M*, laden with 150 tons of fish worth around $50,000, took fire and burned 250 miles southsoutheast of Los Angeles Harbor. Capt. William Magellan and his crew of 11 were picked up by the Scripps Institution of Oceanography vessel *Spencer F. Baird* and later transferred to a freighter.

Clipper "Evelyn R." Repowered

The 126' Long Beach tuna clipper *Evelyn R.*, of which David Maxwell is managing owner, has been repowered by a Model DMG38, 12 x 15, 350 rpm., 800 hp. supercharged Enterprise Diesel. It turns a 62 x 58 propeller, and gave the vessel 10.6 knots at 345 rpm. on a measured mile course. The engine was installed without removing the deck house, a difficult job which required special maneuvering through the engine room doors.

The *Evelyn R.* was completely remodeled three years ago at a cost of $290,000, following war service during which she was used as a supply carrier and liaison and

Largest vessel designed and built for tuna fishing, 150' clipper "Constitution," owned by Capt. Joe Rogers of San Diego, Calif., one of the pioneers in the tuna business. Built in 1952 by Campbell Machine Co., San Diego, she carries 400 tons of fish, 85,000 gals. of fuel and a 17-man crew. Capt. Manuel Neves is skipper, and a 1000 hp. Union Diesel gives the vessel a cruising speed of 11½ knots. Equipment includes two 200 hp. 125 kw. Union Diesel generating sets, one 120 hp., 65 kw. Buda generating unit, Piper airplane for spotting fish, two 18' speed boats with Bendix recorders, Sperry steering gear and radar. There are code wireless and radio phone in the plane, radios in both speed boats and a 500-watt telephone aboard the ship.

courier boat. This was reported to be the costliest remodeling operation ever performed on a Pacific Coast fishing boat.

Landings for 1953 Reported

An annual statistical report from the California Department of Fish and Game says 546,360,258 pounds of fish of all species were landed in the state during 1953, of which 288,675,869 pounds were received at the ports of San Pedro, Wilmington and Long Beach in Los Angeles Harbor. Of the state total, 291,920,488—nearly all tuna—came from Mexican and other Latin American waters.

State-wide tuna landings included, in round figures, more than 33,000,000 pounds of albacore, nearly 10,000,000 pounds of bluefin, 122,000,000 pounds of skipjack and 132,000,000 pounds of yellowfin.

Of the tuna totals, Los Angeles harbor accounted for 9,000,000 pounds of albacore, 8,000,000 pounds of bluefin, 69,000,000 pounds of skipjack, and nearly 90,000,000 pounds of yellowfin.

San Diego was the runnerup in 1953 with 61,000 tons of fish. San Francisco and Monterey, which once rivaled San Pedro, had a combined total of only 26,000 tons.

Westerlund & Lange Handling Hercules Diesels

Hercules Motors Corp. has appointed Westerlund & Lange, San Diego, Calif. as distributors for the full line of Hercules marine Diesel engines, comprising 10 models ranging from 12 to 500 hp.

Westerlund & Lange, a 50 year old firm, has experienced personnel, adequate stocks of repair parts and complete service facilities. A portable machine shop provides "on the spot" service throughout the San Diego area.

Monterey Bottom Fishing Increases

There has been an increase this year in bottom fishing out of Monterey, with double the number of draggers in operation compared to last year. There are now six large 60 to 80' draggers and two 40' draggers fishing out of Monterey, and their catches have comprised rock cod, black cod and some sole. Most of the fish is filleted and shipped to the fresh market.

Monterey has not had many salmon this year, but there have been a lot of squid, most of which has been frozen, with a limited amount for canning. There also have been good catches of herring which have been frozen for both market and bait purposes, as well as canned.

Monterey Boats Repowered

Three fishing boats recently were repowered by Hover Equipment Co. of Monterey. The 32' salmon and albacore boat *Marie & Ida*, owned by Capt. Cosimo Cricchio of Monterey; and the 42' *Little St. Anthony*, owned by Capt. Philip Geammonco of Seaside, have been equipped with 3-cylinder, 84 hp. General Motors Diesels with 2:1 reduction gears. The albacore and salmon boat *Christine*, owned by Capt. J. V. Shaw of Moss Landing has been repowered with a 103 hp. Chrysler Crown engine with 2.5:1 reduction gear.

Washington Salmon Fleet In Full Operation

Virtually the entire Washington commercial salmon fishing fleet was in operation with the opening of the main Puget Sound season on June 24.

Net fishing in the San Juan-Point Roberts areas will continue until November 30. Weekly closed periods will be 48 hours until September 6 and 36 hours thereafter. The closures for the first period will begin at 6 p.m. each Friday for gill nets, and at 12:01 a.m. each Saturday for purse seines and reef nets.

The offshore troll fishery, which began fishing March 15 for chinook salmon, started taking silver salmon June 15. In the Columbia river, gill netting resumed Friday, June 25, below Bonneville dam after a 30-day shutdown for spring chinook escapement. Last to open will be gill net seasons on Grays harbor and Willapa harbor, set for July 16.

On Puget Sound the greatest interest will center around the Adams river run of sockeye, the largest of the Fraser races due on this cycle. It normally peaks in the last 10 days of August and provides a catch of several million fish. Most of the fish caught until September on Puget Sound will be sockeyes. Missing will be the pink salmon runs, which occur in this region only on odd-numbered years.

About 20 Puget Sound canneries and 900 boats from Bellingham, Blaine, Anacortes, Everett, Tacoma, Gig Harbor, LaConner and other ports are expected to participate in this year's net fishery.

Purse Seiners Using Net Reels

While some of the purse seiners at Bellingham began salmon fishing operations the latter part of June, the bulk of the fleet was preparing to leave port after the Fourth of July. The drum seining method of operation, with which purse seines are handled on large steel reels, is coming into general use this year. Drum seines were used for the first time by the Bellingham fleet last year when four or five seiners were equipped with reels which replace the conventional turntable and greatly reduce the amount of labor involved in handling the nets. This year between 35 and 40 boats will be equipped with reels.

Big Increase In Bottom Fish Catch

A large increase in bottom fish production is indicated by catches marketed through the Fishermen's Marketing

Association of Seattle according to Nick P. Kuljis. For the first six months of 1954, production from the 145 draggers operated by the Association members totalled 22,000,000 lbs. This compares with production of 20,000,000 lbs. for the entire year of 1953. Sixty percent of the production comprised true cod, with the other important species being ocean perch and sole. The Association markets fish for fishermen at both Seattle and Bellingham.

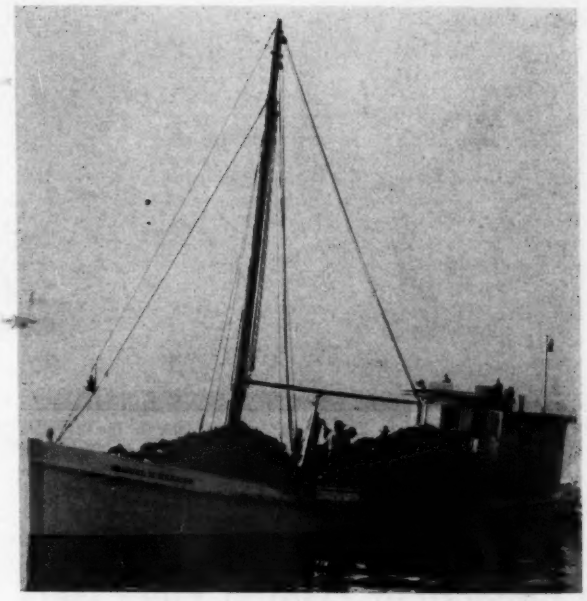
Pacific Fishing & Trading, Nordberg Dealer

Pacific Fishing & Trading Co. has been named Pacific Northwest distributor for Nordberg gasoline marine engines and "Power Chief" Diesel engines. The firm will offer Nordberg gasoline marine engines in the Territory of Alaska and Washington State except along the shores of the Columbia River. Its sale and service of "Power Chief" Diesels are confined to the State of Washington.

The Pacific Fishing & Trading Co., which was formed to service the commercial fishing fleet of the Northwest and Alaska, is a wholly owned subsidiary of the Pacific Marine Supply Co. and has been serving the needs of the Pacific Northwest fisherman for 40 years.

The Company is located on the Ballard Ship Canal, across from the Port of Seattle's Fisherman Dock. It has 600 feet of waterfront, with docks and piers, and maintains a complete outfitting store, carrying marine hardware lines, Barbours nylon and linen gill-netting, Gold Medal cotton netting and Plymouth rope.

H. W. Yuile, who has been with the firm since its beginning, is now president of the company and W. J. Angus is vice president and general manager. Experienced Nordberg personnel will handle sales and service of Nordberg engines under Bill Angus.



Capt. J. H. Jordan's 54' oyster dredger "Samuel H. Hermon" of Gloucester Point, Va. Her power plant is a 165 h.p. General Motors Diesel with 2:1 Twin Disc reduction gear and 32 x 20 Columbian propeller. The vessel is finished with Pettit paint, and has Willard batteries and Danforth anchor.

Virginia Biologists Are Studying Croaker Growth

Scientists at the Virginia Fisheries Laboratory at Gloucester Point are trying to determine the age of the small croakers that are so abundant in the Bay in Summer. Often the age of a fish can be determined by a study of the markings on its scales. The scales of the croaker are difficult to interpret, but Dexter Haven of the Laboratory staff, believes he is making progress.

Haven is using several methods to unravel the mystery of the croaker's age. In June 1952, he placed some baby croakers, about two inches long, in a large concrete tank of sea water. Today, two years later, these fish, though still less than six inches long, are apparently in good health. In their natural surroundings croakers become larger than this in less than a year. Their slow growth in the tank is caused by crowding and shortage of food.

Croakers caught by fishermen today are smaller than they were ten years ago, and it is the job of the biologists to find out why. It is just as important to know why the growth of fish is sometimes stunted, as to understand the reasons for rapid growth.

June Crabbing Slow

June was not a very good month for the Tangier Island crabber and spring fisherman. During the windy days both crabber and fisherman remained at home, but during the calm days they worked the creeks, coves and along the shores of the island, catching 40 or 50 peeler crabs to the scraper and from three to four bushel baskets of butterfish and trout to the pound fisherman. As for the crab potter, he has caught fewer crabs this month than in any other month this season.

However, the crab potters last month did exceedingly well capturing balloon fish. They have been taking from 200 to 300 pounds of these fish a day and selling them for 16 cents a pound. One day last month a crab potter caught 500 pounds.

New Mariners Chart

A new edition of Chart 1224 covering Maryland and Virginia, Chesapeake Bay, Smith Point to Cove Point, was issued recently by the U. S. Coast and Geodetic Survey. The chart was completely reconstructed from recent surveys of the Coast and Geodetic Survey.

Mariners are warned against the use of obsolete charts as new editions contain information essential to safe navigation. Copies of the revised chart, Edition No. 6, may be purchased at $1 from U. S. Coast & Geodetic Survey field offices or from agents handling these charts.

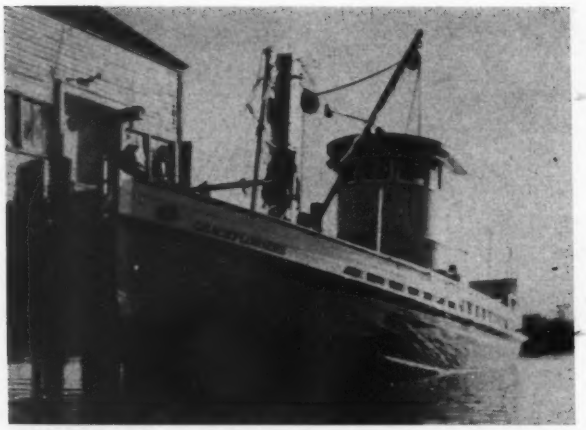
Hampton Roads Area Landings

Fishermen in the Hampton Roads region landed 981,000 lbs. of fish during the month of June, most of which came from pound nets. The catch was about 400,000 lbs. heavier than in the same month of last year.

Croaker production amounted to 381,900 lbs., and was larger than the yield of any other variety of fish. A total of 202,200 lbs. of sea trout was brought to port, putting this species in second position. The croaker and sea trout landings were entirely from pound nets.

South Carolina Committee to Study Revision of Fishery Laws

The Speaker of the House of the South Carolina General Assembly recently has named the following Representatives to serve on a committee to revise the South Carolina fishery laws and make a special study of the commercial fisheries of that State: Henry L. Buck of Conway; Clyde M. Gaingerfield, Charleston; and Edward Huguenin of Ridgeland. A similar committee will be appointed on the part of the Senate.



The 59' x 19' x 5' "Grace P. Lowndes" at the dock of the Lowndes Oyster Co. in South Norwalk, Conn. The vessel is propelled by a 120 hp. Wolverine Diesel with front power take-off to operate the hoister and 2 steel dredges. Captained by Fred Larsen, she is owned by Mrs. Grace P. Lowndes. The boat has a capacity of 1500 bushels of oysters, and uses Gulf oil.

Connecticut Fishing Fleet Gets Best Catches in Years

Blessed with ideal weather, the Stonington fishing fleet during the latter part of June reaped a heavy harvest of prime, marketable fish off the Southern Rhode Island shore. The tally at the Stonington fish docks on the 21st showed that a total of 202,500 lbs., one of the largest catches in years, had been landed during the previous 24 hours. Much of this, about 82,000 lbs., was premium fish shipped out to the Fulton Fish Market in New York.

The remainder was made up of trash fish loaded into tractor-trailers immediately for trucking to dog and cat food processing plants and fertilizer factories. Some of the fish were caught only a mile or two off Watch Hill.

Shad Season Extended

The State Board of Fisheries and Game extended the commercial shad fishing season last month through June 18. Although the shad run has been good this season, catches of commercial fishermen have been low due to unusually high water.

"Russell S." Back in Stonington

The last of the Stonington fishing draggers which tried shrimp fishing in Texas has returned to Stonington. The *Russell S.*, skippered by Capt. Carl Johnson, returned in mid-June and currently is doing well catching both trash and market fish.

Studying Sardine Decline

(Continued from page 19)

California of sardines in the Fall, and this variability accounted in part for the failure of the 1952-53 season.

Water Conservation Program

Important results have been produced by the sardine research program, but it will be years before the final story is told. In the meantime, the fish have gone from all the California coast and only in Mexico can they be found in anything approaching their former numbers.

The 1953-54 California sardine fishing season was the poorest on record, the final report of the Marine Fisheries Branch of the California Department of Fish and Game reveals. The six-month season ended February 1. Total cannery landings were just over 2,600 tons.

An advisory committee composed of the leaders of the industry, sportsmen's groups, Legislature, and the California Fish and Game Department developed a sardine conservation plan which was laid before the Legislature in 1953, but disagreement over details caused its defeat. Fishing continues unrestricted, and every sardine that shows a fin is captured forthwith.

It was officially acknowledged last Summer that there were virtually no sardines off California's coast, when the Fish and Game Commission of that State refused to renew any sardine reduction permits. The Commission has regulatory power over the reduction plants only; it has no control over the canneries, which take by far the greatest number of sardines.

According to the chief of the Marine Fisheries Branch of the California Commission only complete cessation of fishing for a few years, followed by rigid control of fishing intensity for many years can hope to revive the sardine fishery. The few remaining fish must be given a chance to reproduce.

In recognition of the condition of the fishery, the Fish and Game Commission adopted a resolution recently which requests the Governor of the State of California to call an extraordinary session of the Legislature to be concurrent with the 1954 Regular Budget Session to consider enactment of a statute conferring upon the Commission the authority to regulate the taking of sardines for all purposes, consistent with the principle of maximum sustained yield.

The Commission pointed out that the sardine industry of California is faced with a continuing scarcity of fish to the point where there is insufficient supply for either processing or bait and that there are no indications of a return to abundance in the foreseeable future. The Commission believes that present statutory controls are inadequate to insure a recovery of the fishery, and only strict regulation of catches adjusted to meet changes in the amount of the supply offers hope for the future.

Sardine Industry Is Young

In terms of many of our well known world fisheries the sardine industry along the Pacific Coast of North America is relatively young, according to Frances N. Clark of the Bureau of Marine Fisheries, California Department of Fish and Game.

The industry had its beginnings about 1916 with the increased demand for food during the first World War. As long as the fishery yielded the required tonnages, which in the later years was 400,000 tons or more each season, it commanded no undue comment from the fishing industry or from the public in general.

After 1945-46, when the total landings dropped rapidly below this figure all attention was focused on this one fishery. Many reasons have been advanced for the failure of the fishery and many suggestions have been made for its rehabilitation. Through the efforts of the industry, sardine investigations have been greatly expanded.

The importance of the sardine fishery to California alone justifies the research activities. In this State the fishery has been maintained by a fleet of 250 to 300 purse seine vessels manned by approximately 3,000 fishermen. Over 100 processing plants located at San Francisco, on Monterey Bay and in Los Angeles, Newport and San Diego harbors have received the catch and converted it into canned sardines, or reduced the fish to meal and oil.

Although the major part of the sardine catch has been taken by California fishermen and processed in California plants, during some seasons this fishery also has made an important contribution to the economy of British Columbia, Washington, and Oregon. The California seasonal catch in 1916-17 was less than 30,000 tons. From this modest beginning it increased rapidly and 20 years later had expanded to over 700,000 tons.

In British Columbia this same fish, there termed pilchard, was first taken in appreciable numbers about 1926 and 10 years later Washington and Oregon entered the fishery. In these Pacific Northwest areas the chief use of the sardine has been reduction into meal and oil.

New 73' shrimper "Master Brian" designed and built by Cunningham & Pitre, Delcambre, La. for Capt. Herman Broussard of Delcambre; and her 185 hp. Murphy Diesel. Equipped with Twin Disc 3:1 reduction gear, 48" Coolidge 4-blade propeller, 3" Monel shaft, 32-volt Surrette batteries, Stroudsburg hoist, Plymouth rope, Northill anchor, Ritchie compass, Bendix recorder. Finished with Pettit paint, uses RPM oil.

Louisiana Inside Waters Closed to Shrimping

The taking of shrimp from Louisiana's "inside" waters will not be permitted after June 21 until August 9, according to an announcement made by L. D. Young, Jr., director of the Wild Life & Fisheries Commission. Young explained that this annual period, during which shrimping is prohibited, is for the protection of spawning shrimp and to assure Louisiana's commercial shrimpers of a certain harvest.

"Inside waters" refers to all Louisiana waters of the Gulf of Mexico less than three fathoms deep and other areas designated by law. John L. McGee, chief of the law enforcement division of the Louisiana Wild Life & Fisheries Commission, has arranged to set up separate patrols for enforcement of the closed shrimp season.

Seek Widening of Delcambre Canal

Delcambre and the Southwest Louisiana fishing industry it serves recently received the backing of the Iberia police jury in their efforts to have the Delcambre canal widened to augment water freight service and as a harbor for fishing craft during stormy weather.

Delcambre residents have pointed out that as many as 377 boats have tied up there during Gulf storms, and that many boats have "double and triple parked" because the canal is so small.

A delegation, led by John LeBlanc and Mayor Delcambre appeared before the jury and petitioned members to draft a resolution to Louisiana congressmen in Washington asking for assistance in widening the canal and bayous Petit Anse and Carlin.

House Passes Lake Pontchartrain Bill

The Louisiana House on June 14 passed 87-3 a compromise bill establishing commercial fishing regulations in Lake Pontchartrain. The bill opens most of Lake Pontchartrain to commercial fishing and shrimping. Closed to commercial fishing and shrimping is an offshore stretch running four miles deep extending along the lake front from West End to Goose Point. The banned region includes the New Orleans lake front. Also closed to commercial fishing and shrimping is Lake Catherine.

Fifty-Two Vessels Now in Co-op Fleet

Shrimp trawlers fishing for Twin City Co-op plants in Morgan City and Port Isabel, Texas, now number 52. About 37 of them are bringing their catches into Morgan City.

Most recent additions to the fleet are the *Beverly Jean* owned by the Lucas Bros. who have it fishing out of Port Isabel, and the *Onya Ann* built for A. K. Knudsen, trawler owner and operator. The *Silver Slipper* has just been completed at a Florida shipyard for J. C. Orfanello and A. B. Allen.

New Steel Trawler Near Completion

A new all-steel trawler, 68½' x 19½' x 9½', was nearing completion at the A. Macalusa Construction Co. yard at Bayou Vista last month. The hull throughout, including bulwarks, is sheathed with 5/16" steel. The pilot house is of 3/16" steel. Fresh water capacity will be 3500 gallons and fuel capacity, 6000 gallons. Mr. Macalusa designed and drew the plans for the vessel.

Johanson Re-elected to Third Term

A unanimous vote of members of the Gulf Coast Shrimp Producers Association returned Jack J. Johanson to office for his third term as president. Elected vice-president was Charles Yonge, and Charles Rentrop was elected secretary.

The new Board of Directors includes Henry Gros, Joseph Bailey, Tom Vidos, Dave Rebardi, Cyrus Guillot, Wilfred Hebert, Emmett Hardaway, Elwood Scully, Clifford Olsen, Ishmel Henry, Tom Jones and Police DuBois.

New Jersey Fishermen Will Benefit by Channel Dredging

Work has been started on the repairs to the South Jetty at Barnegat Inlet, and the Federal Government has asked for bids, which were to be opened June 25th, on dredging the main channel. A total of $30,000 will be expended on repairing the hole in the South Jetty at the Inlet.

The condition of the Inlet has been the source of complaints from Barnegat Light fishermen and boat owners throughout the Southern section of Ocean County. They say that shoaling, built up since last fall's storm, has all but blocked one side.

It is planned to restore the prevailing channel depth of eight feet in the Inlet and 10 feet over the outer bar.

The State also plans to spend $18,000 for dredging Manahawkin Creek on the West side of Barnegat Bay.

Invents New Type Crab Trap

Charles Lamb of Wildwood has come up with an invention that he claims will take the anxiety out of crabbing.

Many crabbers know the frustration of seeing crabs escape from the old-time square traps because they are so slow in closing. Lamb has devised a circular trap that snaps shut much faster.

At present Lamb is experimenting with colors that may be more tempting to the crab population.

April Seafood Production Shows Big Gain

Landings of fish and shellfish at New Jersey ports during April totaled 20,804,800 lbs., compared with 5,211,800 lbs. during the corresponding months of the previous year. This represents an increase of nearly 300 percent. The marked gain in production was caused mainly by the early appearance of menhaden in quantity.

Capt. Herbert Bittner's new 42' x 12' x 5' party boat "Lobo" of Shelter Island, N. Y. Built by Lash Brothers Ship Yard, Friendship, Me., the craft is powered with a 4-cylinder General Motors Diesel which turns 1¾" Monel shaft. She is finished with International paint, and has Columbian stern bearing and steerer, and Surrette batteries.

Ups and Downs in Fish Yields

(Continued from page 14)

In addition to their effect on population, size, changes in water temperature and ocean currents may profoundly affect the success of a fishery in another way—by making the fish more or less available to the fishermen. From the point of view of the fishermen, we may divide these fluctuations in temperature and currents into two classes: long-term changes and short-term changes.

The increase in the cod fishery of Greenland during the last 40 years is a classical example of a beneficial effect of a long-term change in ocean temperature on the fisheries. Here the average water temperature increased by nearly two degrees Fahrenheit during the 20 years from 1906 to 1926, and is still considerably above the average for the middle of the last century. This increase in ocean temperature has been accompanied by a great northward migration of the cod.

Changes in Fish Distribution

Major changes in ocean currents and ocean temperatures over a short term usually have a bad effect on an established fishery because they result in the movement of the fish out of the area where the fishermen can catch them profitably. In general, the more highly developed and specialized a particular fishery becomes, the more vulnerable it is to changes in fish distribution. For example, the southward move of the sardines from Southern California to Lower California waters has made them virtually unavailable to our California fishermen.

It is more than natural to ask whether fluctuations in ocean currents and temperatures can be predicted, for if this were possible, many millions of dollars could be saved by both the fishermen and the processors. Unfortunately, we do not know enough at the present time either about the ocean or the atmosphere to be able to predict changes from year to year. But we can say a few things: First and most important, changes in ocean currents and temperatures do not always go in the same direction, but fluctuate around an average value.

Bad luck in the fisheries, even over a period of years, does not spell a message of despair. We have every reason to believe that the situation will sooner or later reverse itself. The question of course is when? There we are on more uncertain ground, for nearly all the evidence to date suggests that these changes are not cyclical with a regular and predictable period like the tides and seasons, but irregular. We know that change is the natural, not the exceptional, situation. But at present we can predict changes only in a statistical sense. Essentially, this means that large sudden variations are the least likely.

A more meaningful prediction for man requires that we find cause and effect relationships, or more accurately, that we discover a series of events that always happen in a certain sequence and are correlated in magnitude. Moreover, predictions are of value only if they can be made a considerable time in advance. This requires that the event on which we base our prediction must happen a considerable time before the event we are trying to predict.

Because fish usually take several years to grow up, we have a hope of developing a useful prediction system for variations in the size of populations if what happens to the young fish is important in determining the numbers of adults. On the other hand, in order to predict where the fish will be a year or so in advance, that is, the locations of populations, it will be necessary to find some relationship between the weather and the currents, in which what happens to the weather today will affect the currents several weeks or months, or preferably years from now.

We have at least a glimmering of a relationship between world-wide weather phenomena and fluctuations in the ocean currents. In the North Pacific, for example, there is usually an area of atmospheric high pressure. It is possible that when the center of this high pressure area moves eastward, the southward-flowing California Current is squeezed against the coast and the countercurrent disappears (at least in the surface layer), with the result that the center of sardine population shifts southward out of the range of our fishery.

Need Better Understanding of Oceans

We can gain useful understanding of the ways of fishes through greater understanding of the oceans. Science and engineering can be of greatest value in the service of man only if they proceed logically in four steps: From a foundation of careful observation of what is taking place in nature through understanding of why things happen, to prediction of what will take place, and finally to control of nature. This is a long and slow process. Too often in fisheries science we have attempted to run before we could walk—we have established controls and tried to predict what would happen before we have understood why things had happened, and even before we have observed what has happened. At the present time in oceanography we are still in the stage of observation.

Each of the four steps of scientific and engineering progress may have considerable value to the fishing industries. By observation, we may help to discover new fisheries resources. The deep tunas found by the Pacific Oceanic Fisheries Investigations south of Hawaii, the king crabs of Alaska, and the shrimp off the Atlantic Coast are examples of new resources discovered by observation.

If we can gain understanding of why fish populations change, we may be able to estimate the effects of man on the fisheries and thus establish useful management measures, of value to all. Through understanding based on observation, we may be able to develop means of prediction which will help in industry planning. Finally it is by no means impossible that we shall learn eventually to control some aspects of the ocean.

I am thinking here primarily of the possibility of increasing the fertility of the green pastures of the sea. Ten years ago I would have said that this was impossible or at least economically unfeasible. For example, I believed that the fertility of the California waters depended upon the phosphate and nitrate brought up to the lighted zone by up-welling. This amounts, at a minimum, to several hundred thousand tons of phosphate a year.

But recent work suggests that the fertility actually depends on substances present in very much smaller concentrations than the phosphate. It may be that the total amount of these substances needed to double the fertility of the California waters each year is only one or two thousand tons, and if so, we might eventually by a relatively small expenditure, be able to add these substances to the water and thereby increase greatly the yield of the California fisheries.

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Boston Will Be Host to Oyster Industry at Convention August 1-5

A Presidents' Reception will mark the opening August 1 in Boston, Mass., of the forty-sixth joint annual convention of the Oyster Growers and Dealers Association of North America, Inc., the National Shellfisheries Association and the Oyster Institute of North America. The meeting of the three organizations, which is to be held at the Sheraton-Plaza Hotel, will run through August 5.

A symposium on "Various Aspects of Oyster Setting" is expected to be one of the most interesting sessions at the convention, from the standpoint of both industry and scientists. Speakers are scheduled from all parts of the Atlantic and Gulf Coasts.

Other highlights of the program will include an illustrated lecture on European oyster research by Dr. Thurlow C. Nelson, Rutgers University, New Brunswick, N. J. A wealth of valuable information will be presented by numerous other speakers, including Dr. William H. Weston of Harvard University, whose topic will be "The Significance of Fungi in the Sea".

One of the strictly social features of the convention will be a New England clam bake on Monday, August 2. Buses will leave the hotel for Edaville, South Carver, Mass. Edaville is a cranberry plantation with miles of narrow gauge railroads.

There will be clam chowder, then a trip on the tiny train through the bogs, followed by an authentic clam bake. The buses will return by way of Plymouth Rock. Besides the trip to the cranberry plantation and the clam bake, which is for both men and ladies, there will be special entertainment for the ladies.

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Equipment and Supply Trade News

New Raytheon portable radio-direction finder, a 3-band set which receives standard entertainment broadcasts, as well as the "marine" band and "beacon" band.

Raytheon Portable Radio-Direction Finder

A new portable radio which also serves as a marine direction finder to help boatmen determine their positions at sea, has been announced by Raytheon Manufacturing Co., Waltham 54, Mass. It receives the regular AM "broadcast" band, and also "marine" and "beacon" bands.

Raytheon calls its new model the "GM 114A". Looking very much like an ordinary portable radio, the new direction finder has no radio loop rising from the top. Instead, a flat, knob-like antenna projects only 2" above the case. The whole radio weighs only 13 lbs., including batteries, and measures 12" wide by 7" deep and high.

With the new Raytheon equipment, the boat owner can listen to his favorite radio program, and at the same time, rotate the antenna until it points directly at the radio station. In this way, the mariner may obtain a "fix" showing his exact position at sea, using ordinary commercial radio stations.

In addition, he can tune in the 1700-3400 kc. "marine" frequencies to locate vessels operating radiotelephones and to obtain weather information. The set also receives the 200-415 kc. "beacon" band, enabling the boat owner not only to make accurate fixes, but to locate lightships and danger points marked by government beacons.

Raytheon also offers a two-band broadcast and marine model, the GM-114.

500th Michigan Star Propeller Installed

Michigan Wheel Co., Grand Rapids, Mich., has announced that the 500th installation of their 5-blade propeller has been made since introduction less than a year and a half ago. Acceptance of this new propeller is reported to have been particularly good in the shrimp boat trade.

The Michigan Wheel Company is expanding their pattern range to include diameters as large as 60". Heretofore the Star style was limited to 48" diameter. The range between 50" and 60" diameters will be of a modified design compared to the original, having greater blade area and heavier section to meet the more vigorous demands of the heavy workboat field.

A Star 48" and one of 52" was displayed at the Blessing of the Fleet ceremony held in early July in Port Isabel, Texas.

American Bosch Nozzle Maintenance Outfit

A new portable nozzle cleaning and testing outfit available from American Bosch Corp., Springfield, Mass., is of special interest to those responsible for the maintenance of Diesel engines. The outfit consists of a compact metal carrying case that contains both the American Bosch nozzle test stand and a nozzle cleaning kit so that Diesel injection spray nozzles can be tested and cleaned right on the job conveniently and efficiently.

The nozzle test incorporates an actual fuel injection pump to make sure the nozzles being tested are subjected to approximately similar hydraulic conditions as are encountered on an engine. A filter also is included to protect the nozzles from being accidentally injured by dirt. The fuel oil reservoir is of ample size and a pressure gauge reading to 5000 PSI facilitates setting of nozzle opening pressures. The tester is suitable for nozzles of the American Bosch R, S and T sizes.

The new portable nozzle maintenance outfit will help detect nozzle conditions which may cause excessive smoke, increased fuel consumption and loss of power. In many instances the trouble may be remedied on the spot by proper use of the nozzle cleaning kit.

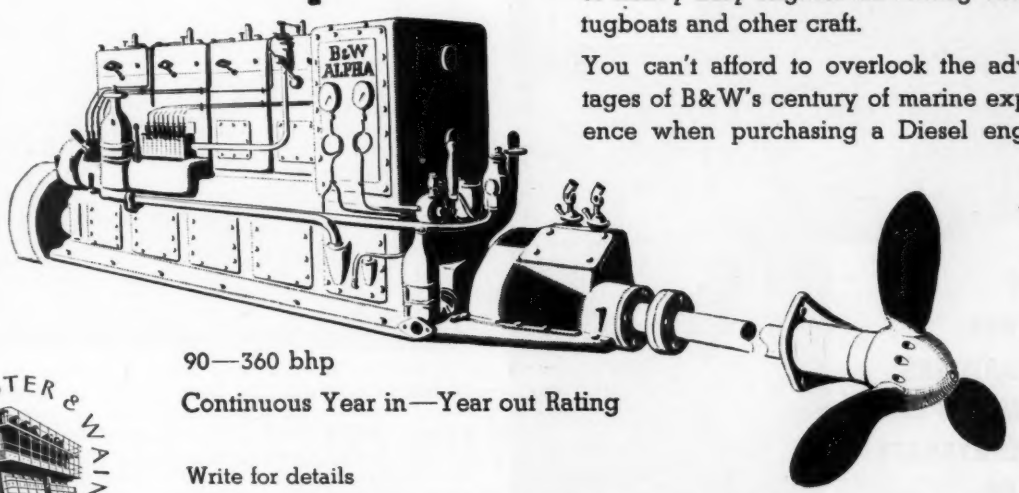
New Bludworth Fish Finding-Viewing Unit

The "Kingfisher", combination echo recorder and cathode ray tube fish finding-viewing unit, is now available in the United States through Bludworth Marine's offices in principal seaports. According to Willard C. Blaisdell, vice-president of Bludworth Marine, 92 Gold St., New York 38, N. Y., the new device is expected to find excellent usage on commercial fishing vessels, particularly for bottom fishing. The "Kingfisher" can detect the presence of fish at all depths down to 240 fathoms.

Essentially the device consists of a new electronic

Capt. Tom Pitman of the trawler "Cape North", with the vessel's new Bludworth "Kingfisher" combination echo recording and echo vision fish finding-viewing unit. The trawler is owned by Lunenburg Sea Products Corp. of Canada.

B&W Alpha



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super-sensitive recording echo sounder of special design in combination with a cathode ray tube viewing unit which can be quickly read and interpreted. The "Kingfisher" enables the fisherman to tell where fish are located, and whether there is a single large fish or a school under his vessel.

The new device has the ability to take any recorded section of the water depth, at 5, 10 or 15 fathom intervals or more, and expand that record on a cathode ray tube to the point where one fathom of depth equals one inch of height on the viewing surface. The viewing unit thus is particularly suited to the detailed study of a single fish or schools on the bottom. The "Kingfisher" also can be used in navigation and for finding wrecks or rock piles when functioning solely as a depthometer.

Marin Co. to Distribute Grover Horns

C. A. Roesch, president, Grover Products Co., has announced the appointment of The Marin Co., 2414 East 57th St., Los Angeles 58, Calif., as a national distributor of the entire line of Grover marine air horns and allied equipment. Manufactured solely for marine use, the Grover horns are constructed entirely of naval bronze for long wear under severe corrosive conditions. They are designed to operate on air, gas or steam pressure (CO_2, Butane, Propane, etc.), under the most adverse weather conditions.

An outstanding item of the Grover line that will be distributed by The Marin Co. is a new fully automatic, electric motor driven air compressor. This small precision-built compressor weighs only 5¾ lbs. and is 6⅜" high x 5" wide x 6½" long. It is designed to deliver air to an air supply tank for the operation of Grover marine air horns or other allied equipment. The compressor maintains 90 to 120 lbs. of air pressure with automatic start (cut in) and stop (cut-off) operation. It is now available in both 6-volt and 12-volt models.

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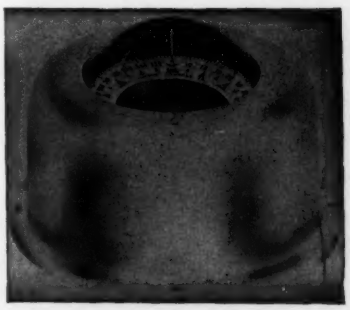

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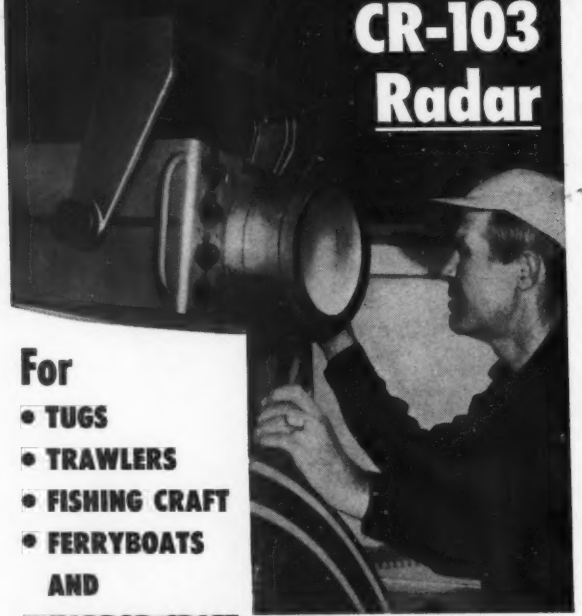

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New National Supply Manager at New York

William P. Streeter

William P. Streeter has been appointed manager of the New York City office of the Engine Division of The National Supply Co., makers of Superior and Atlas Diesels. Mr. Streeter started with the Company as a salesman in 1944, and has served as sales engineer since 1950. He succeeds Kjell Harry Nilsson, who has retired.

Mr. Nilsson had been associated with the Diesel engine industry in the United States and Canada since 1922. He joined the New York City office of the Atlas Imperial Diesel Engine Co. in 1926, rising to Atlantic Coast manager. His title was changed to branch manager shortly after the Atlas assets were acquired by National Supply in 1950.

White Offers Echo Sounder for Small Craft

Wilfrid O. White & Sons, Inc., 178 Atlantic Ave., Boston 10, Mass., maker of the SurEcho line of depth sounders and of Constellation and Corsair compasses, has announced for early delivery a new echo sounder designed especially for small craft. Ultra-compact, the White echo sounder will indicate depths of less than two feet and up to 80', giving readings 30 times per second or 1800 a minute.

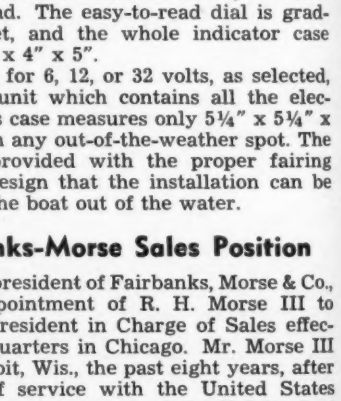
Ideal for rivers, lakes and coastal waters generally, the White echo sounder features an indicator that can be mounted on any shelf, whether inclined or not, on bulkheads and even overhead. The easy-to-read dial is graduated to individual feet, and the whole indicator case measures only about 4" x 4" x 5".

The power converter, for 6, 12, or 32 volts, as selected, is in another compact unit which contains all the electronic components. This case measures only 5¼" x 5¼" x 9", and can be stowed in any out-of-the-weather spot. The special transducer is provided with the proper fairing block, and is of such design that the installation can be made without hauling the boat out of the water.

Named to Fairbanks-Morse Sales Position

Robert H. Morse, Jr., president of Fairbanks, Morse & Co., has announced the appointment of R. H. Morse III to Assistant to the Vice President in Charge of Sales effective July 1, with headquarters in Chicago. Mr. Morse III has been located in Beloit, Wis., the past eight years, after completing a period of service with the United States Navy. He has been general manager of the Beloit plant for the last two years.

Onan Has New, Compact Generator



New Onan variable speed generator.

D. W. Onan & Sons Inc., Minneapolis 14, Minn., is offering a variable speed, battery-charging generator with wall-mount control that has been specially designed for crowded engine rooms where a complete engine-driven generating plant is not practical. The new Onan 32-volt, two-bearing generator will charge 32-volt, 16-cell lead acid batteries within a speed range of 1750 rpm. and 3500 rpm. It starts charging at approximately 1450 rpm. and delivers full output at 1750 rpm. *(Cont'd page 37)*

INCREASED TOWING SPEED?

"You bet" says William R. Farrell, owner of the tugboat *Wm. R. Farrell.* "In our Caterpillar D397 Marine Engine, we have all the power we want, and still some."

Check these features of the Cat D397 Marine Engine:

- **Air or electric starting**
- **400 H. P. Diesel Engine continuous at 1200 RPM**
- **12 cylinder "V" type engine**
- **Caterpillar-built fuel injection system**
- **Effective oil filters**

If you're looking for power, dependability, and long life in a marine engine, call on Perkins-Milton Co. Inc. for further particulars on the finest of marine engines, Caterpillar.

"Service is the Heart of our Business"

PERKINS-MILTON CO. INC.

Marine Division: **4 Water St., Fairhaven, Mass.** ***Phone:*** **New Bedford 6-0011**

Main Office: **376 Dorchester Ave., Boston, Mass.** ***Phone:*** **SOuth Boston 8-4660**

To maintain proper charge rate the special wall-mount control has a tapered rheostat which must be manually adjusted whenever the rpm. is varied. The new Onan generator is shunt wound, and is designed for either belt-drive or flexible coupling. It is compact in size (11 9/16" H. x 11¾" W. x 16⅝" L.).

Kermath Marine Jet Propulsion Unit

The new and revolutionary Hanley-Kermath Hydrojet marine jet propulsion unit introduced at the Boat Shows last year is now in production by Kermath Manufacturing Co., 5886 Commonwealth Ave., Detroit 8, Mich.

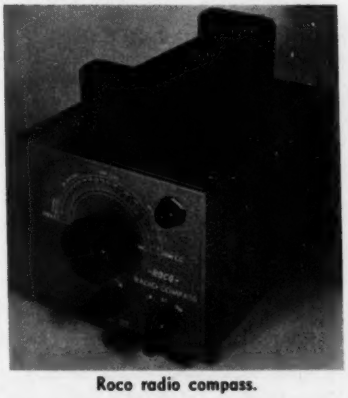
Boats equipped with the Hydrojet unit are reported to have substantially increased maneuverability, reduced maintenance problems, and should be able to operate at full efficiency in deep and shallow waters regardless of debris and without danger of damage to their machinery. The absence of underwater rotating parts eliminates the danger of fouling netting and fishing lines.

The new Hydrojet requires no propeller or drive shaft, no clutch or reverse gear, no stuffing boxes or bearings, not even a rudder. These accessories have been replaced with a simple, high efficiency propulsion unit which takes water from outside the boat through a sea chest in the bottom of the hull and discharges it as a high speed jet under the stern. It is this jet of water that propels the boat.

With no propeller or rudder there are no moving parts under water—the only projection below the boat being the jet nozzle that reduces by two-thirds the water depth required for boat operation. All moving parts of the drive mechanism are inside the boat and easily accessible for service and maintenance.

With the new unit a boat can be turned in its own length even at full speed, and every turn is a power turn instead of the drag turn of a propeller driven craft. A Hydrojet powered boat can be brought to a dead stop in a short time without the need of clutch or reverse gear. It can run in reverse indefinitely without damage or excessive wear and with full steering control. The jet itself is pivoted and can be turned through any angle for directional steering.

Roco Radio Compass Is Portable



Roco radio compass.

The new, improved Roco radio compass available from Newport Supply Co., 2700 W. Coast Highway, Newport Beach, Calif., is a portable, lightweight direction finder and radio receiver with built-in speaker. It can be obtained as a 1-band, 2-band, or 3-band unit, in any combination of bands desired.

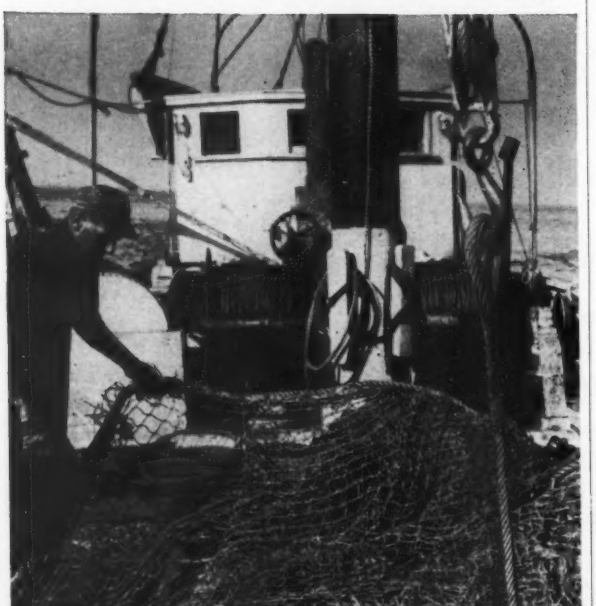
Designed primarily to serve as an accurate navigation instrument, the 1-band Roco with the basic beacon band, enables the skipper to obtain steering courses and a "fix" from charted marine and air beacon signals. With either or both the broadcast band and the short-wave band added to the basic beacon band, the Roco becomes an all-purpose receiver, permitting the owner to navigate on the beacon band, listen to his favorite programs on the broadcast band and tune in on the Coast Guard, marine radiotelephones and government time signals on the short-wave band. The Roco is directional on all bands.

It is wholly self-contained, with circuits, speaker and batteries housed in a shielded aluminum cabinet measuring 5" x 6" x 8".

IT'S A WHALE OF A ROPE!

ROEBLING PREFORMED

SPECIAL GALVANIZED



THIS NEW ROEBLING FISHING ROPE is something to brag about! Its *special galvanizing* gives every inch of every wire a lot more resistance to corrosion. Its *core protection*—the fibre core impregnated with a preservative—wards off excessive absorption; reduces destructive action of salt water, fungi, mildew and dry rot. Its *preforming* makes it easier to handle; gives you smooth drum winding; helps prevent kinking and bending.

Next time you order fishing rope, order Roebling's New Preformed Special Galvanized. And for standing rigging and every other service, there's a Roebling wire rope that will give you top dependability and long-run economy. Call your distributor or the nearest Roebling office. They're listed in the yellow pages. John A. Roebling's Sons Corporation, Trenton 2, N. J.

ROEBLING (CF&I)

Subsidiary of The Colorado Fuel and Iron Corporation

Georgia Seafood Freezing Plant Expands its Operations

Brunswick Quick Freezer officially opened its enlarged seafood processing plant on June 25th. Completion of a major addition to the plant has brought the total floor space to 55,400 square feet. Top-level frozen foods men from all over the country were guests of the firm, which is owned by Sam Lewis, and inspected the new facilities.

The plant has a peak employment capacity of 540 in the processing part of the business. All of the new plant is air conditioned, and a 200-seat dining room will serve employees.

Stainless steel equipment was obtained for the new addition. The new freezers give 80,000 pounds of daily freezing capacity. Huge, sub-zero storage chambers bring the over-all storage capacity of the entire plant to 1,200,000 lbs.

Besides breaded shrimp, the original product, frog legs and catfish fillets also are being produced in packaged form, along with crab, and other products in casserole form. The plant is under the managership of P. E. Drawdy.

New Shrimper "Goodwill"

(Continued from page 15)

The new shrimper *Goodwill* has a beam of 18½′ and draft of 6½′. Her gross tonnage is 63, and capacity of the fish hold is 30 tons. Steam bent 2¼ x 4½ oak ribs on 12″ centers were used in constructing her, along with 4 x 4 pine deck beams on 12″ centers and 2 x 6 and 2 x 8 pine stringers. Planking is 1½″ select cypress and fir, while the keel is 9 x 12 fir. The transom is 2″ pine doubled, the deadwood also is pine and the bowstem is oak.

The hull was treated with Cuprinol wood preservative, and was finished with Hart & Burns Navicote copper bottom paint and International paint on the topsides and deckhouse. Reynolds vapor barrier aluminum foil insulation was used.

The deckhouse is 23′ in length and 8′ wide, and is ceiled with marine plywood, while flooring is 2″ pine. Cypress panelling was used in the wheelhouse and master's cabin. There is one bunk in the master's cabin and 3 bunks in the fo'c's'le. The galley range is a 4-burner oven-type Real Host furnished by J. M. Keely Sales Co. of Miami, and the galley table seats 3.

The *Goodwill* is equipped with a 42″ mahogany steering wheel, 7″ Ritchie compass, RCA Fischlupe, and clutch control furnished by Hammond Foundry. There are three Kidde fire extinguishers, including a 2½-gal. foam, a 1-qt. carbon tetrachloride and a 5-lb. CO_2.

Fuel oil capacity of the new trawler is 4,000 gals., carried in four tanks of 1,000 gals. each, while there are two 270-gal. water tanks, one 60-gal. lube oil tank and a 33-gal. engine water tank. This equipment was supplied by Specialty Tank & Equipment Co. of Jacksonville. There also are two 100-lb. bottled gas tanks furnished by Suburban Gas Co.

The *Goodwill's* deck gear and rigging includes Perko boom and mast, electric fog horn, and running lights, all supplied by J. M. Keely Sales Co., Miami. There is a Portable Light Co. One-Mile-Ray search light and Perko ventilators.

The new shrimper has 518T Stroudsburg hoist; American Tiger Brand cable which was furnished by The Marine Supply & Oil Co., St. Augustine; Madesco 8″ and 10″ snatch blocks and Madesco manila rope blocks; 10″ Hammond galvanized steel towing blocks; and Columbian rope.

There is a 1500-watt Delco-Remy generator, furnished by Gibbs Corp.; a 32-volt Onan O6AH auxiliary generator and Southway batteries. The regular bilge pumps include a 1¼″ Marine Products with clutch unit and a Goulds model, while the auxiliary bilge pump is a Marine Products Flomax #3.

Fish Landings

For Month of June

Hailing fares. Figure after name indicates number of trips.

BOSTON

Acme (4)	84,000	Manuel F. Roderick (3)	144,100
Addie Mae (4)	80,300	Maria Christina (8)	16,200
Agatha (1)	78,000	Maria Del S. (6)	61,200
Agatha & Patricia (4)	156,900	Maria Giuseppe (5)	4,700
Alphonso (7)	81,200	Mary & Jennie (4)	65,400
Angie & Florence (3)	47,700	Michael G. (2)	20,500
Arlington (3)	441,000	Michigan (2)	239,000
Atlantic (3)	354,000	Mother Frances (3)	138,300
Ave Maria (2)	27,500		
		Nancy B. (3)	54,800
Bay (3)	391,600	Nautilus (2)	118,900
Bonnie (3)	342,000	Neptune (3)	289,500
Bonnie Billow (3)	358,500	Notre Dame (5)	141,400
Bonnie Breaker (2)	224,600	Novie (4)	2,800
Bonnie Breeze (3)	416,100		
Bonnie Lou (3)	279,400	Ohio (3)	287,800
Brighton (2)	231,300	Olympia (3)	110,000
		Olympia La Rosa (3)	140,300
Cambridge (3)	375,300		
Caracara (1)	108,000	Pam Ann (3)	257,000
Carmela Maria (5)	112,000	Patty Jean (3)	423,500
Catherine B. (4)	23,100	Phantom (3)	527,500
Catherine T. (3)	146,800	Plymouth (3)	294,600
Comet (3)	231,500	Princess (3)	56,300
Edith L. Boudreau (1)	41,400	Racer (3)	361,500
Elizabeth B. (2)	174,800	Red Jacket (3)	384,200
Estrela (3)	256,900	Roma (6)	86,000
		Rosa B. (2)	182,300
Felicia (2)	144,100	Rosalie D. Morse (2)	236,400
Flying Cloud (3)	422,100	Rosemary (3)	34,100
4C688 (2)	7,400	Rosie (7)	141,700
4H823 (5)	26,900	Rush (3)	293,300
Geraldine & Phyllis (3)	154,600	Sacred Heart (2)	14,900
		St. Anna (4)	29,800
Jacintha (1)	65,000	St. Providenza (2)	3,600
Jane B. (3)	242,100	San Calogero (6)	120,700
J. B. Junior (1)	168,000	Santa Maria (5)	192,500
J. B. Junior 2nd (1)	7,900	Santa Rita (2)	17,300
Joe D'Ambrosio (5)	52,000	Santina D. (3)	30,600
Jorgina Silveira (1)	26,600	Sunlight (1)	132,000
Josephine F. (LT) (1)	8,800	Swallow (3)	320,400
Josephine F. (GN) (2)	4,100		
Josephine P. II (4)	162,900	Texas (3)	250,300
Josie M. (1)	2,000	Thomas D. (3)	159,200
		Thomas Whalen (3)	329,100
Katie D. (3)	195,800	Triton (3)	340,800
Lawrence Scola (1)	21,000	Villanova (3)	109,800
Leonard & Nancy (3)	139,500	Vincie N. (1)	47,100
Leonarda (7)	59,900	Virginia (3)	221,100
Lucky Star (3)	335,200		
		Weymouth (2)	241,300
Mabel Mae (2)	196,800	Wm. J. O'Brien (3)	365,200
Magellan (2)	55,800	Winchester (3)	429,600
Maine (3)	329,800	Wisconsin (3)	449,300

STONINGTON, CONN.

America (10)	13,900	Laura (14)	3,600
Averio (13)	9,400	Lt. Thos. Minor (5)	5,800
Baby II (5)	2,800	Lisboa (14)	6,000
Bette Ann (18)	33,400	Little Chief (16)	10,300
Carl J. (1)	500	Lloyd Chapman (3)	600
Carolyn & Gary (16)	41,700	Marise (18)	25,700
Catherine (15)	7,600	Mary A. (17)	25,700
Chas. Fellows (2)	300	Mary H. (15)	14,200
Chas. Minta (1)	200	Old Mystic (16)	22,500
Connie M. (15)	46,800	Our Gang (1)	400
Eleanor (2)	200	Pete Lesniewski (2)	400
Fairweather (17)	64,200	Pete Tryon (3)	500
Irene & Walter (11)	22,300	Russell S. (2)	26,100
Jane Dore (16)	22,100	William B. (14)	17,400

NEW YORK

St. Rita (1)	1,500

Scallop Landings (Gals.)

Barbara & Gail (1)	1,200	Mayflower (1)	1,225
Beatrice & Ida (2)	2,150	Miriam A. (2)	2,400
Carol-Jack (2)	12,200	Nellie Pet (2)	2,350
Catherine C. (2)	2,325	Norseman (2)	2,450
Enterprise (2)	2,350	Richard Lance (1)	1,220
Florence B. (1)	1,220	S. No. 31 (2)	2,350

to get rid of

BANANA PEEL DECKS

With either of these 'NOSKID' Products you can impart SAFETY to your decks with a paint brush . . . a firm footing on wet or dry decks for rubber boots, leather shoes, sneakers and bare feet.

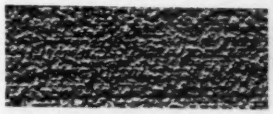
'NOSKID' DECK PAINT

ALL INTERNATIONAL Deck Paints are of the highest quality. INTERLUX 'NOSKID' Deck Paint is made of the same fine ingredients, but with the 'NOSKID' pigment already in it. Just stir and it's ready to use. Wide range of colors.

'NOSKID' COMPOUND

This is the concentrated 'NOSKID' element that may be added to any deck paint to give it a surface that is safe to walk on under all conditions. Simply add it to any deck paint in quantities as directed, stir and apply.

The surface of a 'NOSKID' painted deck is in no way abrasive. It will not cause undue wear of foot gear, and you can lounge on it in bathing trunks in comfort. The rubber-like pigment will not pull out nor does it in any way impair the protective and waterproof qualities of the paint. Send for color card for 'NOSKID' Deck Paint and information about 'NOSKID' Compound.



Photograph of a 'NOSKID' surface (unretouched). Note granular surface that will even grip a wet sneaker.

In contrast, note the smooth surface of conventional deck paint. It is bound to be slippery when wet.

'NOSKID'

DECK PAINT AND COMPOUND

International MARINE PAINTS

International Paint Company, Inc.

21 West St., New York 6, N. Y. • S. Linden Ave., S. San Francisco, Calif.
1145 Annunciation St., New Orleans, La. • 6700 Park Ave., Montreal, Que.
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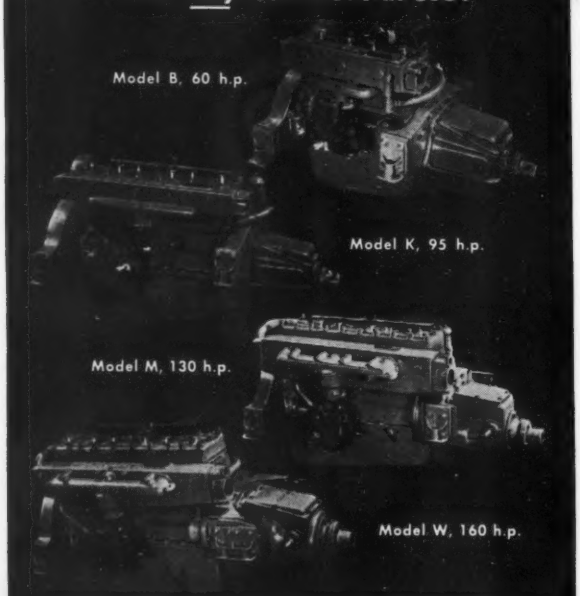
WORLD'S LARGEST MARINE PAINT MAKERS

Chris-Craft

WORLD'S BEST BUYS IN MARINE ENGINES

for fishing boats, work boats —for any commercial use!



Horsepower for horsepower, you can't buy a better marine engine for smooth, dependable operation and more years of hard service at low upkeep cost than a compact, power-packed Chris-Craft! Read what this user says:

Rudolph Kovacs

"I've just completed compiling operating figures on my Chris-Craft powered, 63-ft. sport-fishing vessel, *Rough Rider*," states Rudy Kovacs, veteran charter-boat operator, South Norwalk, Conn. "Results obtained from the twin Chris-Craft engines are so amazingly wonderful, I felt you ought to know of their superb performance! They develop a top speed of 21 m.p.h. and a comfortable cruising speed of 14 knots. I have never been more delighted with engine performance! There will be Chris-Craft Marine Engines in *all* of my vessels next season."

Chris-Craft Marine Engines are available in 60, 95, 105, 120, 130, 131, 145, 158 and 160 h.p. with reduction drives and opposite rotation for most models. See your Chris-Craft Dealer or mail coupon for FREE catalog today! Buy NOW!

CHRIS-CRAFT CORP., MARINE ENGINE DIV., ALGONAC, MICH.

WORLD'S LARGEST BUILDERS OF MOTOR BOATS

CHRIS-CRAFT CORP., Algonac, Mich. ***FREE!***

Send FREE Chris-Craft Marine Engine Catalog to:

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NEW BEDFORD

Adventurer (3)	72,000	Kelbarsam (2)	19,600
Anastasia E. (3)	52,600		
Annie Louise (3)	33,100	Lera G. (2)	44,400
Annie M. Jackson (4)	95,100	Louis A. Thebaud (3)	86,500
Antonina (3)	46,200		
Arnold (5)	44,700	Mary & Joan (3)	137,000
Arthur L. (3)	78,000	Mary Tapper (4)	145,000
Automatic (4)	30,300	Molly & Jane (1)	16,700
		Muskegon (1)	28,000
Barbara (2)	39,100		
Barbara M. (3)	73,900	Nancy Jane (2)	63,000
		Noreen (3)	175,000
Carl Henry (3)	130,500		
Chas. E. Beckman (4)	58,000	Pauline H. (3)	207,300
Charlotte G. (3)	61,100	Phyllis J. (4)	53,100
Christina J. (3)	138,000		
Connie F. (3)	85,200	Question (2)	10,200
Dauntless (2)	39,000		
Dolly & David (1)	5,000	Reliance (2)	8,000
Driftwood (3)	16,200	Roann (3)	51,800
		Rosemarie V. (3)	47,500
Ebenezer (1)	5,000	R. W. Griffin, Jr. (3)	153,500
Elva & Estelle (4)	94,500		
Ethel C. (2)	81,300	Sea Fox (5)	86,900
Eugene & Rose (3)	85,500	Sea Hawk (3)	55,000
Eunice-Lilian (3)	100,900	Sea Hawk (Boston) (2)	77,700
		Shannon (3)	74,200
Falcon (2)	76,800	Solveig J. (3)	179,200
Felicia (1)	81,800	Sonny & Joyce (3)	14,100
		Stanley B. Butler (2)	148,900
Gertrude D. (1)	17,500	Sunbeam (3)	67,300
Gladys & Mary (3)	145,000	Susie O. Carver (4)	54,600
Growler (2)	66,700		
		Teresa & Jean (3)	179,600
Harmony (2)	49,300	Two Brothers (4)	48,300
Invader (2)	63,000	Venture 1st (1)	34,000
Ivanhoe (3)	105,800	Victor Johnson (2)	63,500
		Viking (3)	101,700
Jacintha (2)	104,500	Viking (Chil.) (2)	6,500
J. Henry Smith (2)	15,500		
Jimmy Boy (3)	55,100	Whaler (3)	149,400
Joan & Ursula (3)	103,000	Winifred M. (3)	23,400
Julia K. (1)	4,500		

Scallop Landings (Lbs.)

Agda (2)	22,000	Louise (3)	33,000
Aloha (3)	33,000	Lubenray (2)	22,000
Alpar (2)	22,000		
Amelia (2)	22,000	Malene & Marie (1)	10,000
		Maridor (2)	22,000
Babe Sears (3)	33,000	Marmax (2)	17,400
B. Estelle Burke (2)	22,000	Martha E. Murley (1)	11,000
Bobby & Harvey (3)	33,000	Mary Anne (2)	22,000
Brant (2)	22,000	Mary Canas (2)	21,200
Bright Star (3)	28,000	Mary E. D'Eon (1)	11,000
		Mary J. Hayes (2)	22,000
Carol & Estelle (2)	16,000	Mary J. Landry (2)	20,500
Catherine & Mary (3)	33,000	Mary R. Mullins (2)	22,000
Charles S. Ashley (3)	33,000	Molene & Marie (1)	11,000
		Moonlight (2)	22,000
Dartmouth (3)	33,000	Muskegon (1)	3,500
David A. (1)	11,000		
Debbie & Jo-Ann (3)	33,000	New Bedford (3)	33,000
Doris Gertrude (2)	22,000	Newfoundland (2)	22,000
Dorothy & Mary (3)	27,500	North Star (1)	11,000
Eleanor & Elsie (2)	22,000	Olive M. Williams (2)	22,000
Elizabeth N. (2)	22,000		
Empress (1)	11,000	Pearl Harbor (3)	32,500
		Pelican (3)	33,000
Fairhaven (2)	22,000	Porpoise (3)	33,000
Flamingo (3)	33,000		
Fleetwing (3)	33,000	Red Start (3)	33,000
Friendship (2)	22,000	Richard Lance (1)	11,000
Friendship 2nd (1)	9,000	Rosalie F. (2)	22,000
		Ruth Moses (3)	24,500
Ida K. (2)	22,000	Sea Ranger (1)	11,000
Janet & Jean (3)	33,000	The Friars (2)	20,500
Jerry & Jimmy (3)	33,000	Ursula M. Norton (2)	22,000
John G. Murley (2)	18,500		
Kingfisher (2)	22,000	Vivian Fay (3)	33,000
		Wamsutta (2)	22,000
Lauren Fay (2)	22,000	Wm. D. Eldridge (3)	33,000
Linus S. Eldridge (2)	22,000	Wm. H. Killigrew (2)	22,000

WOODS HOLE

Cap'n Bill II (1)	42,100	Madeline (3)	11,500
Carlene (1)	1,300	Mildred & Myra (1)	900
Clara C. (4)	4,800	Morning Star (5)	7,400
Dennis & Carol (1)	8,100	Priscilla V. (3)	65,800
Eugene H. (2)	56,300	Reliance (4)	9,300
Eva M. Clark (5)	7,900	Squam (3)	7,500
4-R-683 (1)	1,500	Viking (1)	1,000
Genevieve D. (1)	2,300	Wee One (1)	200
Julia K. (2)	7,200	Winifred M. (1)	4,700
Little Lady (5)	10,300		

Scallop Landings (Lbs.)

Doris Gertrude (1)	3,000	Palestine (1)	10,125
Mary E. D'Eon (1)	3,157		

GLOUCESTER

Acme (1)	35,000	Lucy Scola (5)	72,000
Addie Mae (1)	27,000		
Admiral (2)	194,000	Madame X. (8)	14,500
Alden (3)	90,000	Madonna Di Siracusa (2)	11,000
American Eagle (4)	83,500	Malolo (2)	152,000
Anna Guarino (14)	50,600	Manuel P. Domingos (2)	320,000
Annie (9)	48,000	Margaret Marie (5)	64,500
Annie & Josie (7)	66,500	Margie L. (2)	41,000
Anthony & Josephine (10)	91,000	Maria Immaculata (7)	68,000
Atlantic (3)	230,000	Marion & Alice (2)	216,000
Ave Maria (2)	122,000	Maris Stella (2)	320,000
Ave Maria (Boston) (1)	33,000	Mary (8)	29,500
		Mary Ann (2)	34,000
Baby Rose (2)	210,000	Mary E. (5)	21,500
Bobby & Jack (3)	180,500	Mary Jane (3)	580,000
Bonaventure (1)	160,000	Mary Rose (1)	165,000
		Metacomet (3)	61,000
California (4)	149,000	Michael F. Dinsmore (3)	298,000
Cara Cara (2)	270,000	Michael G. (1)	43,000
Carlannsul (9)	92,000	Minkette 1st (8)	10,500
Carlo & Vince (5)	68,000	Mother Ann (2)	465,000
Catherine (2)	2,000		
Catherine B. (3)	96,000	Natale III (4)	91,500
Chanco (2)	170,000	No More (7)	19,000
Charlotte M. (2)	270,000	Novelty (3)	17,000
Cherokee (3)	288,000		
Cigar Joe (3)	56,000	Ocean Clipper (3)	206,000
Clipper (2)	300,000	Ocean Life (1)	420,000
Columbia (2)	400,000	Ocean Spray (3)	232,000
Curlew (2)	320,000	Ocean Wave (2)	222,000
		Our Lady of Fatima (1)	220,000
Dolphin (2)	265,000		
Doris F. Amero (3)	164,000	Philip & Grace (2)	230,000
		Pilgrim (1)	160,000
Eagle (1)	90,000	Pilhasca (5)	128,000
Eddie & Lulu M. (13)	40,000	Pioneer (7)	65,500
Edith L. Boudreau (1)	96,000	P. K. Hunt (3)	345,000
Eleanor (2)	53,000	Princess (1)	40,000
Emily H. Brown (1)	185,000	Priscilla (5)	7,500
Eva II (5)	15,500	Puritan (2)	300,000
		Raymonde (2)	175,000
Falcon (13)	85,500	Rose & Lucy (4)	140,000
Florence & Lee (2)	355,000		
Flow (2)	550,000	Sacred Heart (14)	105,500
Frances R. (4)	30,500	Sacred Heart (Boston) (3)	48,000
Francis L. MacPherson (1)	160,000	St. Anthony (2)	305,000
Frankie & Jeanne (6)	29,000	St. Francis (7)	156,500
		St. John (12)	42,600
Gaetano S. (2)	210,000	St. Mary (3)	93,000
Gertrude E. (4)	19,000	St. Nicholas (1)	180,000
Giacoma (2)	17,000	St. Peter (4)	142,000
Golden Eagle (3)	455,000	St. Peter II (2)	340,000
		St. Providenza (15)	98,500
Hazel B. (2)	245,000	St. Stephen (5)	83,000
Helen B. (2)	30,000	St. Terese (3)	63,000
Hilda Garston (2)	355,000	St. Victoria (2)	110,000
Holy Family (2)	338,000	Salvatore & Grace (1)	50,000
Holy Name (4)	90,000	Sea Hawk (2)	270,000
		Sea Queen (3)	183,000
Ida & Joseph (3)	180,000	Sea Rambler (1)	85,000
Immaculate Concept'n (3)	113,000	Sebastiana C. (2)	108,000
		Serafina N. (4)	110,000
Jackie B. (2)	70,000	Serafina II (4)	98,000
Jackson & Arthur (8)	47,000	Sister Ann (1)	175,000
Jennie & Lucia (2)	164,000	Stella Maris (6)	147,000
Johnny Baby (10)	39,500	Sunlight (1)	195,000
Jorgina Silveira (1)	71,000	Sylvester E. Whalen (2)	330,000
Joseph & Lucia (1)	145,000		
Joseph S. Mattos (2)	420,000	Theresa M. Boudreau (2)	389,000
Josie II (8)	59,500	Tina B. (2)	172,000
Judith Lee Rose (2)	650,000	Trimembral (4)	47,500
		Veronica N. (9)	34,000
Killarney (2)	360,000	Victoria (8)	10,500
Kingfisher (2)	400,000	Villanova (2)	470,000
		Virginia Ann (4)	100,000
Lady of Good Voyage (2)	190,000		
Linda B. (13)	15,000	We Three (6)	19,000
Little Flower (4)	67,500	White Owl (9)	49,000
Little Joe (3)	39,500	Whitestone (3)	211,000
Lorine 3rd (2)	43,000	Wild Duck (2)	300,000

Scallop Landings (Lbs.)

Brother Joe (3)	16,500	Cap'n Bill 2nd (1)	9,000
Cap'n Bill (1)	6,000		

PORTLAND

Agnes & Elizabeth (2)	115,000	Gretchen & Dale (12)	99,000
Alice M. Doughty (1)	31,000	Gulf Stream (1)	185,000
Alice M. Doughty II (2)	90,000		
Andarte (1)	14,600	John J. Nagle (3)	337,000
Annie Louise (10)	67,600		
Araho (1)	80,000	Kennebec (1)	70,000
Ariel (18)	165,300		
		Lawrence Scola (4)	50,100
Batavia (2)	510,500	Lawson (2)	106,800
Betty Nell (13)	61,700		
		Marie H. (5)	72,900
Carmella & Lois (2)	9,400	Mary & Helen (17)	152,200
Carolyn & Priscilla (2)	120,000	Mary H. (1)	5,500
Cathy & Alice (18)	142,800	Mary J. Landry (1)	9,000
Challenger (16)	112,200	Mascot (17)	119,900
Courier (1)	150,000	M. C. Ballard (2)	220,000
Crescent (16)	137,200	Medan (2)	630,000
		Mocking Bird (1)	48,000
Dart (7)	47,600		
Dorchester (2)	400,000	Njorth (3)	43,500
		Nora D. Sawyer (3)	4,800
Elinor & Jean (2)	78,400		
Ethelina (2)	120,000	Onward III (15)	160,100

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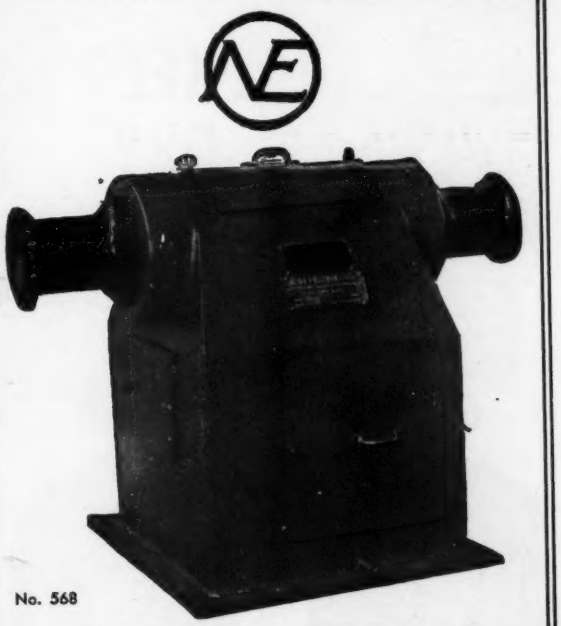

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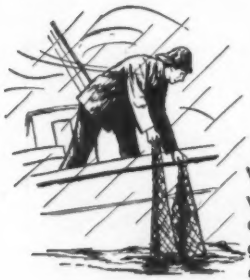

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Pocahontas (2)	293,000	Shady Lady (4)	53,800
Polaris (2)	235,000	Silver Bay (1)	180,000
Quincy (2)	390,000	Theresa R. (2)	285,000
Rebecca (12)	99,300	Vagabond (2)	96,000
Rebecca II (7)	63,600	Vandal (2)	107,000
Resolute (3)	134,000	Vida E. (5)	78,800
St. George (1)	200,000	Vida E. II (16)	169,200
St. Michael (3)	9,500	Voyager (2)	95,000
Sea King (3)	85,100	Wawenock (2)	465,000
		Winthrop (1)	175,000

Scallop Landings (Lbs.)

Adele K. (3)	29,000	Mary & Julia (2)	26,000
Gambler (2)	22,000		

Cape Cod Biologists on Haddock Tagging Project

Fish & Wildlife Service biologists left Provincetown Harbor on June 26 aboard the dragger *Cape Cod*, Capt. Manuel Phillips, to tag haddock of all sizes on the fishing grounds off the Lower Cape. The five research biologists, headed by John Clark, planned to tag the haddock as part of the Federal program to study the habits of the fish.

Frank Riley, Provincetown agent for the Service, urged all fishing boats taking haddock bearing such tags to send the tags with requested information either to him or to the Fish & Wildlife Service at Woods Hole. A $1 reward is offered for each tag.

Riley also reported that the Oceanographic Institution at Woods Hole has tagged some tuna, which should be making an appearance soon along the Lower Cape fishing grounds. He asked that anyone catching a tagged tuna also turn over the information to him or to Woods Hole for a $1 reward.

Big Mackerel Strike

Several hundred barrels of mackerel were shipped by truck out of Provincetown on June 25 as large quantities of the fish were taken from the traps in one of the first big mackerel strikes. Many of the trap boat captains made more than one trip to their nets in order to bring in all the fish.

In addition to the mackerel, several tuna were found in the traps, and brought to the fishing wharves. Capt. Manuel J. Govia's trap boat brought in two weighing between 400 and 500 lbs. each.

The first tuna of the season were landed earlier in the month by Capt. John Fields' trap boat *Charlotte* from the National traps. The fish, unloaded at Monument Dock, weighed 395 and 380 lbs. each, dressed.

"Shamrock" Demolished by Explosion

The 32-ft. Provincetown trawler *Shamrock* was demolished by an explosion June 12 as she lay alongside Monument Dock. The two men aboard, Capt. Antone Souza, owner of the craft, and his fishing companion, Antone Santos, escaped with no serious injuries.

The blast virtually wrecked the *Shamrock*, and the explosion sent debris and splintered wood several hundred feet in the air. Capt. Souza had had the *Shamrock* only a short time, having purchased it from Albert Souza. It was his fourth boat by that name.

Lobsters Shipped by Air

Approximately 800 lbs. of live lobsters went from a lobster pound on Town Wharf in Provincetown to Martha's Vineyard June 20 by way of a plane from the Provincetown Airport. The lobsters, shipped by Seafood Packers, Inc., were out of the water only about an hour from the time they left the pound until they reached the Island. It was reported to be the first time live lobsters have been sent from Provincetown by plane.

Maryland Shell Planting Program Stepped Up

Oyster shells by the thousands are being returned to the waters of Chesapeake Bay and tributaries this year in Maryland's oyster propagation program.

Old shells provide anchorage for baby oysters. A shell scow carries from 2500 to 4000 bushels. The shells are trucked to the scows from packing plants which supply them free to the State. Packers, under a new law, surrender 50 per cent of their empty shells.

During the past month a pile of nearly 250,000 bushels of oyster shells on a lot near the Crisfield waterfront was being removed to the various scows which transport the shells to the public oyster rocks in Maryland. The local shells and possibly 1,500,000 bushels more from other sections, placed on the public rocks, represent part of the continuing campaign of the State to build up production to at least a 5,000,000-bushel annual level.

Shortage of Crabs

Many lower Somerset County watermen, especially catchers of soft-shell crabs, are wondering about the outcome of the present crabbing season. At the beginning of the season, they say there was a good supply of small crabs, with a satisfactory number of medium ones, and only a few of the larger size.

Now with the season not quite half over there are very few small or medium crabs, nearly everything caught being the larger or jumbo size crabs, which are becoming somewhat scarce.

Put Net Fishing Ban in Force

A 1953 legislative bill banning net fishermen from the Magothy River, held in abeyance because of a petition by county watermen, was declared in full force last month. The Magothy River Association won a consent decree in the Anne Arundel County Circuit Court declaring the referendum petition by commercial watermen to be unlawful, null and void.

The commercial watermen had sought to stymie the bill's effect by presenting a petition with more than 2,500 signatures asking that the law be put to a county ballot.

The Magothy River Association entered suit to stop the referendum on the ground that it was not a local law but a general public law and if put to a referendum would have to undergo a State-wide test. Petitions for this would require about 10,000 signatures.

Nelson Marine Railway Sold

The marine railway property in the Jersey section of Crisfield owned and operated by Howard S. Drewer has been purchased by Guss Forbush & Sons. One of the long-established businesses in this section, the property was long known as the Nelson Marine Railway. Mr. Drewer has been proprietor of the railway for the past decade or more.

Drewer is planning to continue his tong shaft business he bought from Charles D. Briddell, Inc. two years ago, at the location formerly used by Briddell for this purpose.

Mr. Forbush is the owner of several boats and for years has operated vessels on the Chesapeake Bay. His two sons have followed in his footsteps. For six years during World War II Forbush operated the old Dana Railway.

Lloyd Riggin

One of Crisfield's best known citizens, Lloyd Riggin, died last month at the age of 79. He had been engaged in the seafood business for most of his life, for a great number of years as a member of the firm of Ralph Riggin & Bro. At one time he managed the old Crisfield Ice Manufacturing Co. Riggin is credited with designing and building a machine, still in use, to scale and handle herring and herring roe for canning.

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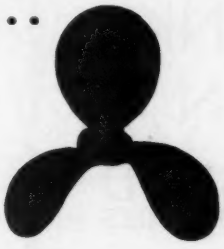

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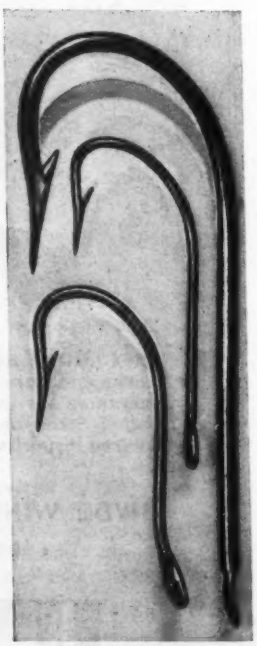

Hooks shown above are Mustad-Halibut, Qual. No. 9395 Mustad-Limerick, Qual. No. 31000 Mustad-Gravitation, Qual. No. 9353

Use of V-Bottom Fishing Boats

(Continued from page 16)

to plank satisfactorily when the bottom is laid lengthwise the hull; with a low chine forward and lengthwise planking there is often an excessive twist in the fore ends of the lower plank and the upper planking of the bottom runs off to feather-edges on the chines. Hence, for practical reasons, the cross-planking of the Chesapeake Bay mode of construction would be the better, if there is any advantage in low chines forward in V-bottoms of moderate speed.

Many Variations

There are many variations of the model in use on the Chesapeake and to the southward along the coast. Figure 6 shows the lines of a V-bottom fishing launch from lower Chesapeake Bay. This model of boat is of moderate speed and must be seaworthy enough to withstand the vicious, short steep sea of the lower Bay.

The boat shown is built almost entirely out of southern pine, oak being used only for a rubbing shoe on the keel and for the inner stem, outer cutwater, sternpost and the topside frames. It will be observed that this boat has very low chines forward so that, when loaded, the chines show only at the extreme stern. The sides increase in flare sharply at the bow to their maximum and this continues with no real change to the stern.

The rise of bottom is moderate and carried well aft by means of a reverse curve in the rabbet as the stern is approached; over the propeller the bottom becomes flat, across from chine to chine. This is thought to prevent squatting at full speed. The favored stern is round, as shown, but boats are built with square transoms. The arrangement of the boat shown in Fig. 6 is for a combination launch that can be used for crabbing, oystering and fishing and for light freighting as well.

Boats of almost the same form, but with greater rise to the bottom, are used off Hatteras in open water fishing; these are the noted Hatteras Boats. The Hatteras region is a rough water area, and the existence of the V-bottom Hatteras Boat is enough to indicate that the model can be designed in a seaworthy form. Examination of Hatteras Boats shows that they usually are sharper forward than the boat in Fig. 6, the Hatteras model having a cross-section a few feet abaft the bow that is a straight sided V from rabbet to sheer, and the chine is faired into this.

The stern is formed much like that of the boat shown in Fig. 6, but with only a slight reverse in the rabbet. The chines are submerged and the forebody, viewed from ahead, appears noticeably hollow at the load waterline, due to the V-section mentioned earlier. The boats seen by the writer were all planked lengthwise on the bottom. These boats have a top speed of about 12 statute miles (10.4 knots) with a large automobile engine.

Boats of the model shown in Fig. 6 run very cleanly at 8 to 10 miles per hour (7 to 8.7 knots), but begin to settle aft, if driven faster. Since high-powered automobile engines are readily available, it is not uncommon to find these boats much over-powered and driven faster than their model warrants. To overcome the resulting "squatting" or settling aft, "squatboards" have been added. These are flat wooden fins or planes placed at and nearly parallel to the waterline under and abaft the stern, to hold the stern up when the boat is driven hard. The fins usually are braced by a pair of iron rods from the quarters, or may be chocked to the bottom, with their fore edges faired into the bottom of the boat over the propeller.

Power Garveys with V-Bottom

The power garvey has spread rapidly along the coast of Maryland facing the Atlantic and has reached into Virginia at Chincoteague Island. Here the garveys are sometimes built with a V-bottom of very moderate deadrise. However, the most common design has a slight V, formed only in the fore rake near the waterline. This is accomplished by planking the bottom with thick plank

for a couple of feet each way from the fore-end of the waterline, and then dubbing a shallow V into the plank so that a slight V-bottom is formed there.

A popular size is between 28 and 30 ft. length with beam of between 6 and 7½ ft. Tunnel sterns are becoming common. The usual arrangement is to have a steering shelter aft, with the engine box just forward, and an open cockpit from engine box to the fore rake where a short fore deck is placed.

The garvey has begun to invade the Chesapeake as an oyster tonging and crabbing launch, for which employments it is well fitted. It is also cheaper and easier to build than the V-bottom launches now in use in that area.

North Carolina Oyster Seed And Shell Planting Completed

C. G. Holland, assistant commercial fisheries commissioner, reports that oyster seed and shell planting was completed last month. As of the early part of June plantings had been made in the following places: Carteret County, Point of Marsh, 5,945 tubs; Pamlico County, Oyster Creek, 7,660; Hyde County, Shell Point, 5,890 and Shell Bay, 1,500; Onslow County, New River, 3,199; Pender County, Sloop Point Bay, 3,329; New Hanover County, Masonboro Bay, 3,155; Brunswick County, Shallotte River, 990; Saucepan, 1,100 and Old Sound, 1,275 tubs. Approximately 15,000 additional tubs of shells were planted later in other areas.

Holland said that the menhaden fleet of Beaufort began operating last month with fair catches.

Shrimp Prices Down

Prices of shrimp last month were low compared to the same period last year. Shrimpers were getting from 15 to 18 cents a pound, which was much lower than the 25 to 28 cents a pound received at this time last year.

In addition to a general overall decline in prices, it is believed that the depressed market may be due to a large amount of frozen shrimp being moved before the fresh shrimp are bought; and because of imports of shrimp from Mexico and the South Pacific.

New River Shrimp Season Opens

Shrimpers were busy in the New River area of Onslow and other counties on June 16 following opening of the shrimp season in the stream and its tributaries. Opening of shrimping in the New River area was delayed, with the season beginning in all other inland waters of the state in May.

Reports from the coast indicate shrimp catches have not been heavy, but that quality is improving.

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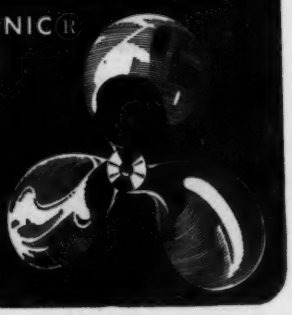

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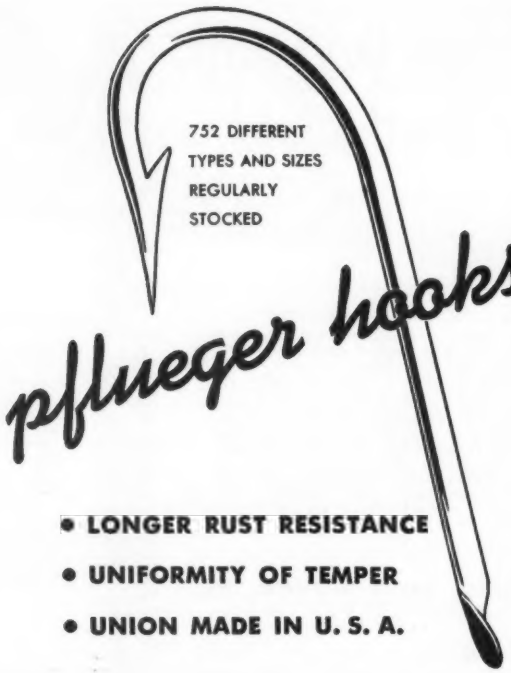

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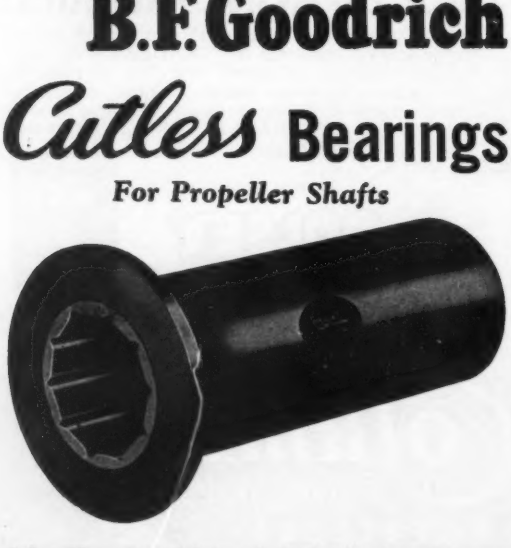

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Vineyard Bailings

By J. C. Allen

July heaves abreast, bringing some of the things common to the season and some that are new. Lobstermen for the most part hauled their gear ashore a month ago after fishing since Christmas, a situation that has never been known in these bearings before.

In this respect, it is noteworthy that there has been much to-do in Massachusetts over the idea of dragging for lobsters on the offshore grounds. As a pierhead loafer who draws but damned little water, we don't expect anyone to pay any attention to our opinion, but frankly, we don't care for the idea.

We have checked landings of lobsters by draggers for some years, noting amounts from 500 lbs. to two tons landed along with fish. The heft of 'em were large, so far as we have checked and the heft of 'em were female, whether bearing eggs or not. Although we know that the scientists claim that there are few fertile eggs on a lobster weighing over four pounds, we also know that an Oceanographic craft, dragging offshore, struck a spot where they picked up plenty of lobsters, all small shorts.

Summer Fluke Returning

There are signs that the summer fluke is returning in numbers that compare favorably with real old times. 'Tis a grand thing to have happen, fluke being a fashionable fish and good stock.

Bait, by which we mean the small fish of all kinds, chased by the larger ones, also of all kinds, lays black in the inshore waters. And we mean black! One of our pals, as we like to call him, Col. Clark of Barnstable, who spends his days and nights studying these things, says that there are dozens of varieties of such bait never before seen in this climatic zone.

Shrimp Becoming More Plentiful

We suspect that someone is due to try the shrimp right close aboard shortly. Just who or when, we wouldn't predict, but they are probably there. We know that shrimp are thicker on the clam-flats as of today than we have ever seen them and we have been around for quite a spell. Naturally, shrimp seen in such localities are juveniles, yet we have seen plenty of even smaller ones marketed, but not in America.

We have kept a pretty close run on haddock for some weeks and it has been noticeable that of the landings which we have checked, the fish are running larger and even, with a very small percentage of scrod.

We don't want to make any rash statements or even conjectures, but this may be what some of the scientists are after through the use of large-meshed twine. It should have that effect if the scheme works. On the other hand the smaller number of vessels chasing the fish should have some effect too.

Water too Warm for Swordfish

But let us not lose track of the climatic change that is going on. Up to date of this writing, 'tis late too, no boat north of Hatteras and south of the Canadian border, has landed a swordfish. Such a thing never happened before until 1953. In that year the first fresh swordfish retailed on the North Atlantic coast, was landed in Nova Scotia.

This means to us that the water this way is already too warm for 'em and they don't stop. We predict that they won't stop this year either. In our own Island port of Menemsha Creek we saw seventy-odd swordfishermen tied up in a fog, only four years ago. Last year seven commercial craft fished Georges, and those who really got fish, ran easterly clean off Halifax.

Canadian Report

By C. A. Dixon

As July arrives sardine production in southern New Brunswick remains practically unchanged with fish extremely scarce in regular production areas such as those around Deer Island and the St. Andrews Bay region. At Grand Manan, however, fishermen are doing pretty well, production there being quite steady and the fish of excellent size and quality in most cases.

Good quantities are being caught along the back of Campobello Island and fishermen predict that the school of sardines will move into Passamaquoddy Bay waters by the middle of July or early in August.

As a result of the catches made during the last five or six weeks the Canadian sardine factories have been operated at full capacity most of the time. Boatmen have fared well as compared to other seasons.

Fishermen's Cooperative Successful

The Grand Harbor Fishermen's Cooperative, Ltd. held its annual meeting recently, and it was revealed that total sales during the fiscal year were the highest on record, the largest proportion of income being from lobsters.

The cooperative plans to investigate the possibility of establishing a fish meal plant and a bait freezing plant. At present it is estimated that 50 per cent of round fish is wasted in the making of fillets. Other fish cuttings could be utilized in a fish meal plant. Both fish meal plants and freezers are being built with assistance from the Department of Industry, and the provincial and federal governments will be asked to study the needs of the fishermen.

The cooperative was organized in 1939 under the leadership of the present manager, D. P. Guptill. There are now 170 shareholders. The organization supplies great quantities of rope, twine and other fishing equipment, and handles over half the lobster catch and much of the groundfish in the district.

Plenty of Pollock

Bay of Fundy line and trawl fishermen have been making good catches of groundfish, and pollock have been very plentiful—so much so that in some places fishermen have been and still are unable to sell their fish in the fresh state. In addition to immense catches of pollock made by purse seiners in the St. Mary's Bay area in Nova Scotia, hand-line fishermen in New Brunswick waters are landing a lot of fish every day whenever they can sell them at the low price of one cent a pound.

Inspection of Fish

Deputy Minister of Fisheries Stewart Bates has described as "a significant step forward" a recent federal-provincial meeting in Ottawa to reach general agreement on co-operative measures to bring about more effective fish inspection in Canada.

H. V. Dempsey, director of the Inspection and Consumer Service of the federal Department of Fisheries, outlined to representatives of the ten provinces at the meeting the Department's proposals for the quality control of fresh and frozen fish and minimum standards of construction, equipment, sanitation, and operation of plants producing these products.

In co-operation with the fishing industry, the Department early this year completed a coast-to-coast survey of more than 500 fresh, frozen, salt and pickled fish plants which handle fish for interprovincial or international trade. As a result of this survey the Department held discussions in March to draft minimum standards so that it will be possible to maintain peak quality from the time fish are caught until they reach the consumer.

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Brown Alarm Mfg. Co., Inc., 1631 Filbert St., Baltimore 26, Md.

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The Maxim Silencer Co., 126 Homestead Ave., Hartford 1, Conn.
*Northill Co., Inc., Los Angeles 45, Calif.

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Crescent Battery & Light Co., Inc., 819 Magazine St., New Orleans 12, La.
"Exide": Electric Storage Battery Co., 42 South 15th Street, Philadelphia 2, Pa.
*Surrette Storage Battery Co., Salem, Mass.
Willard Storage Battery Co., 246 East 131 St., Cleveland 1, Ohio.

BOOTS
*United States Rubber Co., Rockefeller Center, New York, N. Y.

CANS
Continental Can Co., 100 E. 42nd St., New York, N. Y.

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A. J. Tower Co., 24 Simmons St., Boston, Mass.
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COLD STORAGE
Quaker City Cold Storage Co., Philadelphia, Pa.

COMPASSES
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*Marine Compass Co., Pembroke, Mass.
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*Wilfrid O. White & Sons, Inc., 216 High St., Boston 10, Mass.

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Edo Corporation, College Point, L. I., N. Y.
Kaar Engineering Corp., Palo Alto, Calif.
Raytheon Manufacturing Co., 138 River St., Waltham 54, Mass.
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Kaar Engineering Corp., Palo Alto, Calif.
Raytheon Manufacturing Co., 138 River St., Waltham 54, Mass.

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Caterpillar Tractor Co., Peoria, Ill.
*Cooper-Bessemer Corp., Mount Vernon, O.
*Cummins Engine Co., Columbus, Ind.
*Detroit Diesel Engine Div., General Motors Corp., Series 51, 71 and 110 Marine Diesels, 13400 W. Outer Drive, Detroit 28, Mich.
*Enterprise Engine & Machinery Co., 18th and Florida Sts., San Francisco 10, Calif.
*Fairbanks, Morse & Co., Chicago, Ill.
Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.
P&H Diesel Engine Division, Harnischfeger Corp., 100 Lake St., Port Washington, Wis.
*Kermath Manufacturing Co., 5890 Commonwealth Ave., Detroit 8, Mich.
The Lathrop Engine Co., Mystic, Conn.
Murphy Diesel Co., 5317 West Burnham St., Milwaukee, Wis.
*The National Supply Co., Engine Division, Springfield, Ohio.
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Kaar Engineering Corp., Palo Alto, Calif.
*Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
Raytheon Mfg. Co., 138 River St., Waltham 54, Mass.

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*John A. Roebling's Sons Co., Trenton 2, N. J.
Wickwire Spencer Steel Division of The Colorado Fuel & Iron Corp., Palmer, Mass.

Nautical Facts

Courtesy of "Proceedings of the Merchant Marine Council"

Q. If while at sea the index mirror on the vessel's sextant were broken and no spares were available, how would you make temporary repairs?

A. A substitute index mirror can be made by cutting a piece of glass from a mirror and inserting it in the index mirror frame. Another method is to use a plain piece of glass silvered by tin foil and mercury.

Q. What is the responsibility of a watch officer who has a new man on watch with him if that man is making his first trip to sea?

A. The watch officer should:

1. See that the new man is taught the watch routine and the work he is expected to perform.

2. Watch the man closely until he has learned the ship's routine.

3. Conduct the indoctrination in the duties expected with a way of tolerance and helpfulness.

Q. Where does the ship first receive the driving force, or thrust, from the propeller?

A. On the thrust block.

Q. What is the meaning of special-purpose buoys colored as follows:

(a) White;

(b) Yellow;

(c) White with green tops;

(d) White and black alternate horizontal bands;

(e) White and international orange alternate bands, either horizontal or vertical;

(f) Yellow and black vertical stripes?

A. The meaning of these special-purpose buoys are:

(a) White buoys mark anchorage areas.

(b) Yellow buoys mark quarantine anchorage areas.

(c) White buoys with green tops are used in connection with dredging and surveying operations.

(d) White and black alternate horizontally banded buoys mark fish net areas.

(e) White and international orange buoys alternately banded, either horizontally or vertically, are for special purposes to which neither the lateral system colors nor the other special-purpose colors apply.

(f) Yellow and black vertically striped buoys are used for seadrome markings and have no marine significance.

Q. Between what hours should lights be carried?

A. From sunset to sunrise.

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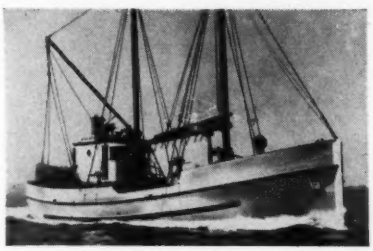
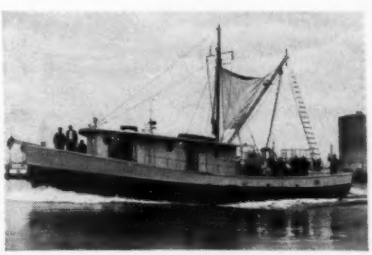
For Auxiliary Power

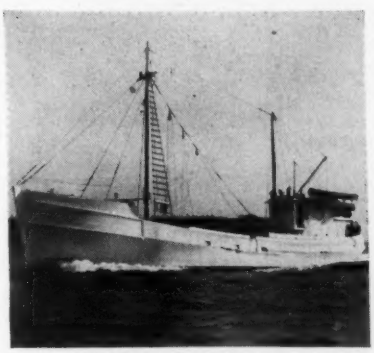
Lister's reputation for trouble-free, exceptionally long engine performance life makes it a natural choice for fishing boat auxiliary power service. In ever increasing numbers, trawlers, draggers, shrimpers and other fishing craft are installing Lister power for standby generators, refrigeration and other auxiliary power needs.



Above, a West Coast fishing schooner uses a Lister FR2 to operate a refrigeration compressor and an electric generator. Fishermen have found that Lister's unique dual combustion chamber insures easy starting and fuel economy, in every type auxiliary service.



For freezing up to 2500 pounds of shrimp per hour, a Gulf Coast shrimp trawler depends on two 36 hp Listers for powering the ship's dual refrigeration system. Compact design of these new Listers provides maximum power in minimum hull spaces.



A New England dragger uses a 16 hp Lister below decks to drive both a 7½ kw generator for lighting and a pump. For every type of auxiliary power service, you'll find a Lister engine to meet your particular needs. Ranging from 4 to 54 hp you will find the new "Freedom Range" Lister engine your best power investment. Get complete details today at the nearest sales or service office listed below.

DIESEL DUAL FUEL GAS — THE NATIONAL SUPPLY COMPANY — ATLAS Imperial DIESEL ENGINES — Superior ENGINES — DISTRIBUTOR OF Lister DIESELS IN U.S.A.

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Another Example of Efficient Power at Lower Cost

"She would run on the smell of an oily rag"

• These days, work boat operating cost looms more important than ever. And here's more proof that you can't beat a Cooper-Bessemer diesel for prolonged over-all economy.

Over ten years ago a Cooper-Bessemer JS-6 went into the "Joseph Meseck, Jr.", shown above. Just recently, Walter L. Meseck of the Meseck Towing line said, "We have always felt she would run on 'the smell of an oily rag'. As for repairs, we must say she has never given us any mechanical trouble—just the replacement of a few parts from time to time that you can't expect to last forever! If all your engines turn out as well as the "Little Joe's" we would never hesitate to recommend one."

Scores of records like this show that with a Cooper-Bessemer in your engine room you can be sure of completely reliable service plus the lowest operating cost ever, year in, year out.

The Cooper-Bessemer Corporation

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